



Material Safety Data Sheet

LN-704 PROJECTS AHE70424WH0

CAULKING

1. Product and company identification

Product name : LN-704 PROJECTS AHE70424WH0
Manufacturer : Akzo Nobel Paints LLC
15885 West Sprague Road
Strongsville, OH 44136
U.S.A.
Validation date : 2013-03-12.
Print date : 2013-03-12.
Responsible name : Product Safety and Compliance
In case of emergency : 1-800-545-2643

2. Hazards identification

Emergency overview

Physical state : Liquid.
Signal word : WARNING!
Hazard statements : CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. CANCER HAZARD - CONTAINS MATERIAL WHICH CAN CAUSE CANCER.
Precautionary measures : Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Do not eat, drink or smoke when using this product. Avoid contact with eyes, skin and clothing. Keep container tightly closed. Use personal protective equipment as required. Wash thoroughly after handling.

Potential acute health effects

Inhalation : Irritating to respiratory system.
Ingestion : Harmful if swallowed.
Skin : Irritating to skin.
Eyes : Irritating to eyes.

Potential chronic health effects

Chronic effects : Contains material that may cause target organ damage, based on animal data.
Carcinogenicity : Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.
Target organs : Contains material which may cause damage to the following organs: lungs, upper respiratory tract, skin, eyes, stomach.

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
Ingestion : No specific data.
Skin : Adverse symptoms may include the following:
irritation
redness

2. Hazards identification

Eyes : Adverse symptoms may include the following:
 pain or irritation
 watering
 redness

See toxicological information (Section 11)

3. Composition/information on ingredients

Name	CAS number	%
Limestone	1317-65-3	10-<30
Kaolin	1332-58-7	10-<30
Vinyl acetate/ethylene copolymer, n.o.s.		10-<30
Quartz (SiO ₂)	14808-60-7	0.1-<1.0
titanium dioxide	13463-67-7	0.1-<1.0
cristobalite	14464-46-1	0.1-<1.0
water	7732-18-5	30-<60

4. First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. If any product remains, gently rub with petroleum jelly, vegetable or mineral/baby oil then wash again with soap and water. Repeat as needed. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

5. Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
 carbon dioxide
 carbon monoxide
 metal oxide/oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Avoid exposure - obtain special instructions before use. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Keep out of the reach of children.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Keep from freezing.

8. Exposure controls/personal protection

Ingredient	Exposure limits
Limestone	NIOSH REL (United States, 6/2009). TWA: 5 mg/m ³ 10 hour(s). Form: Respirable fraction TWA: 10 mg/m ³ 10 hour(s). Form: Total OSHA PEL (United States, 6/2010). TWA: 5 mg/m ³ 8 hour(s). Form: Respirable fraction TWA: 15 mg/m ³ 8 hour(s). Form: Total dust OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m ³ 8 hour(s). Form: Respirable fraction TWA: 15 mg/m ³ 8 hour(s). Form: Total dust
Kaolin	ACGIH TLV (United States, 1/2011). Notes: 1996 Adoption Refers to Appendix A -- Carcinogens. Respirable fraction; see Appendix C, paragraph C. TWA: 2 mg/m ³ 8 hour(s). Form: Respirable fraction NIOSH REL (United States, 6/2009). TWA: 5 mg/m ³ 10 hour(s). Form: Respirable fraction TWA: 10 mg/m ³ 10 hour(s). Form: Total OSHA PEL (United States, 6/2010).

8. Exposure controls/personal protection

Quartz (SiO₂)

TWA: 5 mg/m³ 8 hour(s). Form: Respirable fraction
 TWA: 15 mg/m³ 8 hour(s). Form: Total dust
OSHA PEL 1989 (United States, 3/1989).
 TWA: 5 mg/m³ 8 hour(s). Form: Respirable fraction
 TWA: 10 mg/m³ 8 hour(s). Form: Total dust

OSHA PEL Z3 (United States, 9/2005). Notes: 10/(SiO₂+2)

TWA: 10 mg/m³ 8 hour(s). Form: Respirable

OSHA PEL Z3 (United States, 9/2005). Notes: 250/(%SiO₂+5)

TWA: 250 mppcf 8 hour(s). Form: Respirable

OSHA PEL 1989 (United States, 3/1989). Notes: as quartz

TWA: 0.1 mg/m³, (as quartz) 8 hour(s). Form: Respirable dust

ACGIH TLV (United States, 1/2011). Notes: Respirable fraction; see Appendix C, paragraph C.

TWA: 0.025 mg/m³ 8 hour(s). Form: Respirable fraction

OSHA PEL Z3 (United States, 9/2005). Notes: 30/(%SiO₂+2)

TWA: 30 mg/m³ 8 hour(s). Form: Total dust.

NIOSH REL (United States, 6/2009). Notes: See Appendix A - NIOSH Potential Occupational Carcinogen

TWA: 0.05 mg/m³ 10 hour(s). Form: respirable dust

titanium dioxide

OSHA PEL (United States, 6/2010).

TWA: 15 mg/m³ 8 hour(s). Form: Total dust

OSHA PEL 1989 (United States, 3/1989).

TWA: 10 mg/m³ 8 hour(s). Form: Total dust

ACGIH TLV (United States, 1/2011). Notes: Substance identified by other sources as a suspected or confirmed human carcinogen. 1996 Adoption Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL). See CFR 58(124) :36338-33351, June 30, 1993, for revised OSHA PEL. Refers to Appendix A -- Carcinogens.

TWA: 10 mg/m³ 8 hour(s).

cristobalite

OSHA PEL Z3 (United States, 9/2005). Notes: 1/2[10/(%SiO₂+2)]

TWA: 10 mg/m³ 8 hour(s). Form: Respirable

OSHA PEL Z3 (United States, 9/2005). Notes: 1/2[250/(%SiO₂+5)]

TWA: 250 mppcf 8 hour(s). Form: Respirable

OSHA PEL 1989 (United States, 3/1989). Notes: as quartz

TWA: 0.05 mg/m³, (as quartz) 8 hour(s). Form: Respirable dust

ACGIH TLV (United States, 1/2011). Notes: Respirable fraction; see Appendix C, paragraph C.

TWA: 0.025 mg/m³ 8 hour(s). Form: Respirable fraction

OSHA PEL Z3 (United States, 9/2005). Notes: 1/2[30/(%SiO₂+2)]

TWA: 30 mg/m³ 8 hour(s). Form: Total dust.

NIOSH REL (United States, 6/2009).

TWA: 0.05 mg/m³ 10 hour(s). Form: respirable dust

Recommended monitoring procedures

- : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures

- : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Hygiene measures

- : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

8. Exposure controls/personal protection

- | | |
|--|---|
| Respiratory | : A NIOSH-approved, air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where air-purifying respirators may not provide adequate protection. |
| Hands | : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. |
| Eyes | : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. |
| Skin | : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| Environmental exposure controls | : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. |

9. Physical and chemical properties

- | | |
|-----------------------------------|--|
| Physical state | : Liquid. |
| Flash point | : Closed cup: 96°C (204.8°F) |
| Auto-ignition temperature | : Not available. |
| Flammable limits | : Not available. |
| Color | : Not available. |
| Odor | : not available |
| pH | : 8 |
| Boiling/condensation point | : 100°C (212°F) |
| Melting/freezing point | : 0°C (32°F) |
| Specific gravity | : 1.443 |
| Density (lbs/gal) | : 12.042 |
| Vapor pressure | : Not available. |
| Vapor density | : Not available. |
| Volatility | : 53.81% (v/v), 38.21% (w/w) |
| Viscosity | : Dynamic: 100 mPa·s (100 cP) |
| Dispersibility properties | : Easily dispersible in the following materials: cold water. |
| Solubility | : Easily soluble in the following materials: cold water. |
| VOC g/l | : 22 g/l [Method 24] |

10. Stability and reactivity

- | | |
|---|--|
| Chemical stability | : The product is stable. |
| Conditions to avoid | : No specific data. |
| Incompatible materials | : No specific data. |
| Hazardous decomposition products | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| Possibility of hazardous reactions | : Under normal conditions of storage and use, hazardous reactions will not occur. |

11. Toxicological information

Acute toxicity

Conclusion/Summary : Not available.

Chronic toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
titanium dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-

Conclusion/Summary : Not available.

Sensitizer

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Kaolin	A4	-	-	-	-	-
Quartz (SiO ₂)	A2	1	-	+	Proven.	-
titanium dioxide	A4	2B	-	+	-	-
cristobalite	A2	1	-	+	Proven.	-

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

12. Ecological information

Ecotoxicity : No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
titanium dioxide	Acute EC50 5.83 mg/L Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute LC50 5.5 ppm Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling) - <24 hours	48 hours
	Acute LC50 >1000000 ug/L Marine water	Fish - Fundulus heteroclitus	96 hours

Conclusion/Summary : Not available.

Persistence/degradability

Conclusion/Summary : Not available.

13. Disposal considerations

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	Not available.	Not available.	Not available.	-		-
IMDG Class	Not available.	Not available.	Not available.	-		-

PG* : Packing group

15. Regulatory information

U.S. Federal regulations : **United States inventory (TSCA 8b)**: All components are listed or exempted.
SARA 302/304/311/312 extremely hazardous substances: No components were found.
SARA 302/304 emergency planning and notification: No components were found.
SARA 302/304/311/312 hazardous chemicals: Limestone; Kaolin
SARA 311/312 MSDS distribution - chemical inventory - hazard identification:
 Limestone: Immediate (acute) health hazard; Kaolin: Delayed (chronic) health hazard

State regulations

Massachusetts : The following components are listed: CALCIUM CARBONATE
New York : None of the components are listed.
New Jersey : The following components are listed: CALCIUM CARBONATE; LIMESTONE; KAOLIN; SILICA, QUARTZ; QUARTZ (SiO₂); TITANIUM DIOXIDE; TITANIUM OXIDE (TiO₂); SILICA, CRISTOBALITE; CRISTOBALITE (SiO₂)
Pennsylvania : The following components are listed: LIMESTONE; KAOLIN; QUARTZ (SiO₂); TITANIUM OXIDE (TiO₂); CRISTOBALITE (SiO₂)

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

International regulations

Canada inventory : Not determined.

16. Other information

Hazardous Material Information System (U.S.A.) :

Health	*	2
Flammability		1
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 10.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

Prepared by : Product Safety and Compliance Akzo Nobel Paints LLC

16. Other information

Notice to reader

The information contained herein is based on data available at the time of preparation of this data sheet and which Akzo Nobel Paints LLC believes to be reliable. However, no warranty is expressed or implied regarding the accuracy of this data. Akzo Nobel Paints LLC shall not be responsible for the use of this information, or of any product, method or apparatus mentioned and you must make your own determination of its suitability and completeness for your own use, for the protection of the environment, and the health and safety of your employees and users of this material.

Complies with OSHA Hazard Communication Standard 29CFR1910.1200.

Material Safety Data Sheet

Section 1: PRODUCT AND COMPANY INFORMATION

Product Name(s): Lafarge Joint Compound, Ready Mixed

Product Identifiers: Rapid Coat® Joint Compound White, Beige, Yellow; Rapid Coat® Mid-Weight, Rapid Coat® Low Dust, Rapid Coat® Mold Defense, Rapid Coat® All Purpose, Rapid Coat Pro® All Purpose Lite, ProSelect™, Rapid Coat All Purpose Mold Defense®, Crack Filler.

Manufacturer:
Lafarge North America Inc.
12018 Sunrise Valley Drive, Suite 500
Reston, VA 20191

Information Telephone Number:
703-480-3600 (9am to 5pm EST)

Emergency Telephone Number:
1-800-451-8346 (3E Hotline)

Product Use: Joint Compound is used for gypsum board finishing in commercial and residential construction.





Note: This MSDS covers many types of joint compound. Individual composition of hazardous constituents will vary between types of joint compound.

Section 2: COMPOSITION/INFORMATION ON INGREDIENTS

Component	Percent (By Weight)	CAS Number	OSHA PEL -TWA (mg/m ³)	ACGIH TLV-TWA (mg/m ³)	LD ₅₀ Oral	LC ₅₀ Rat, Inhalation
Calcium Carbonate*	20-70	1317-65-3	15 (T), 5 (R)	3 (R); 10 (T)	NA	NA
Talc*	0-20	14807-96-6	3 (T)	2 (R)	NA	NA
Mica *	0-20	12001-26-2	3 (R)	3 (R)	NA	NA
Crystalline Silica (as Quartz)	0-10	14808-60-7	[(10) / (%SiO ₂ +2)] (R); [(30) / (%SiO ₂ +2)] (T)	0.025 (R)	0.5 g/kg, Rat	NA
Perlite*	0-15	93763-70-3	15 (T), 5 (R)	3 (R); 10 (T)	13g/kg, Mouse	NA
Cellulose	0-5	9004-34-6	15 (T), 5 (R)	10 (T)	>5 g/kg, Rat	>5.8 g/m3/4H
Polyvinyl Acetate	0.2-10	9003-20-7	NA	NA	>25 g/kg, Rat	NA
Attapulgite	0-5	12174-11-7	NA	NA	NA	NA
Starch	0-5	9005-25-8	15 (T), 5 (R)	10 (T)	6.6 g/kg (I, M)	NA
Triazine	0-2	4719-04-4	NA	NA	0.8 g/kg, rat	NA

Note: Exposure limits for components noted with an * contain no asbestos and <1% crystalline silica (I, M) = LD₅₀ Intraperitoneal and Mouse

Section 3: HAZARD IDENTIFICATION

WARNING		
	<p>Toxic - Harmful by inhalation. (Contains crystalline silica)</p>	
	<p>Use proper engineering controls, work practices, and Personal Protective Equipment (PPE) to prevent exposure to dust.</p>	
	<p>Read MSDS for details.</p>	
	 Respiratory Protection	 Eye Protection
	 Gloves	

Emergency Overview: Joint compound is a paste that is white or beige in color. Joint compound has a slight odor. Joint compound is not combustible or explosive. A single, short-term exposure to joint compound and joint compound dust presents little or no hazard.

Section 3: HAZARD IDENTIFICATION (continued)

Potential Health Effects:

- Eye Contact:** Eye contact to airborne dust may cause immediate or delayed irritation or inflammation. Eye exposures require immediate first aid and medical attention to prevent significant damage to the eye.
- Skin Contact:** Direct, prolonged, or repeated contact may cause dry skin, discomfort, and irritation.
- Inhalation (acute):** Breathing dust may cause nose, throat or lung irritation, including choking, depending on the degree of exposure.
- Inhalation (chronic):** Risk of injury depends on duration and level of exposure.
- Silicosis: This product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica from this product can cause silicosis, a seriously disabling and fatal lung disease. See Note to Physicians in Section 4 for further information.
- This product contains mica and talc. Prolonged and repeated inhalation of respirable mica or talc dust may cause lung disease (pneumoconiosis). The extent and severity of lung injury depends on duration and level of exposure.
- Carcinogenicity: Crystalline silica is classified by IARC and NTP as a known human carcinogen.
- This product contains Polyvinyl Acetate. This polymer is not classified as a carcinogen by IARC or NTP. However, trace amounts of residual vinyl acetate monomers may be present, which is classified as a possible human carcinogen by IARC.
- Autoimmune Disease: Some studies show that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis may be associated with the increased incidence of several autoimmune disorders such as scleroderma (thickening of the skin), systemic lupus erythematosus, rheumatoid arthritis and diseases affecting the kidneys.
- Tuberculosis: Silicosis increases the risk of tuberculosis.
- Renal Disease: Some studies show an increased incidence of chronic kidney disease and end-stage renal disease in workers exposed to respirable crystalline silica.
- Ingestion:** Do not ingest joint compound. Ingestion of small quantities of joint compound is not known to be harmful; ingesting large quantities can cause intestinal distress.
- Medical Conditions Aggravated by Exposure:** Individuals with lung disease (e.g. bronchitis, emphysema, COPD, pulmonary disease) can be aggravated by exposure to dust.

Section 4: FIRST AID MEASURES

- Eye Contact:** Rinse eyes thoroughly with water for at least 15 minutes, including under lids, to remove all particles. Seek medical attention for abrasions.
- Skin Contact:** Wash with cool water and a pH neutral soap or a mild skin detergent. Seek medical attention for rash or irritation.
- Inhalation:** Move person to fresh air. Seek medical attention for discomfort or if coughing or other symptoms do not subside.
- Ingestion:** Do not induce vomiting. If conscious, have person drink plenty of water. Seek medical attention or contact poison control center immediately.

Section 4: FIRST AID MEASURES (continued)

Note to Physician:

The three types of silicosis include:

- Simple chronic silicosis – which results from long-term exposure (more than 20 years) to low amounts of respirable crystalline silica. Nodules of chronic inflammation and scarring provoked by the respirable crystalline silica form in the lungs and chest lymph nodes. This disease may feature breathlessness and may resemble chronic obstructive pulmonary disease (COPD).
- Accelerated silicosis – occurs after exposure to larger amounts of respirable crystalline silica over a shorter period of time (5-15 years). Inflammation, scarring, and symptoms progress faster in accelerated silicosis than in simple silicosis.
- Acute silicosis – results from short-term exposure to very large amounts of respirable crystalline silica. The lungs become very inflamed and may fill with fluid, causing severe shortness of breath and low blood oxygen levels.

Progressive massive fibrosis may occur in simple or accelerated silicosis, but is more common in the accelerated form. Progressive massive fibrosis results from severe scarring and leads to the destruction of normal lung structures.

Section 5: FIREFIGHTING MEASURES

Flashpoint & Method:

Non-combustible

Combustion Products:

May release irritating gasses if heated above 93° C

General Hazard:

Avoid breathing dust.

Firefighting Equipment:

Joint compound poses no fire-related hazard. A SCBA is recommended to limit exposures to combustion products when fighting any fire.

Extinguishing Media:

Use extinguishing media appropriate for surrounding fire.

Section 6: ACCIDENTAL RELEASE MEASURES

General:

Shovel or scoop up material from spilled joint compound into a container. Avoid actions that cause dust to become airborne. Avoid inhalation of dust. Wear appropriate protective equipment as described in Section 8.

Waste Disposal Method:

Dispose of joint compound according to Federal, State, Provincial and Local regulations.

Section 7: HANDLING AND STORAGE

General:

Stack containers of material in a secure manner to prevent falling. Do not stack more than 4 boxes or 3 pails high to prevent container failure. Joint compound containers are heavy and pose risks such as sprains and strains to the back, arms, shoulders and legs during lifting and mixing. Handle with care and use appropriate control measures.

Usage:

Cutting, crushing, sanding or grinding joint compound, drywall or other crystalline silica-bearing materials will release respirable crystalline silica. Use all appropriate measures of dust control or suppression, and Personal Protective Equipment (PPE) described in Section 8 below.

Do not use if material has spoiled and is moldy or has an unpleasant odor. Close container and discard properly. Keep container tightly sealed following use.

Housekeeping:

Avoid actions that cause dust to become airborne during sanding and clean-up such as dry sweeping or using compressed air. Use HEPA vacuum or thoroughly wet with water to clean-up dust. Use PPE described in Section 8 below.

Section 7: HANDLING AND STORAGE (continued)

- Storage Temperature:** Store at room temperature in a dry location. Protect from freezing, extreme heat, or direct sunlight.
- Storage Pressure:** Unlimited.
- Clothing:** Remove and launder clothing that is dusty before it is reused.

Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

- Engineering Controls:** Use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits.

Personal Protective Equipment (PPE):

- Respiratory Protection:** Under ordinary conditions no respiratory protection is required. Wear a NIOSH approved respirator that is properly fitted and is in good condition when exposed to dust above exposure limits.
- Eye Protection:** Wear ANSI approved glasses or safety goggles when handling or sanding joint compound to prevent dust coming in contact with eyes. Wearing contact lenses when using joint compound under dusty conditions, is not recommended.
- Skin Protection:** Wear gloves when handling joint compound. Remove clothing and protective equipment that becomes dusty and launder before reusing.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

- | | | | |
|--------------------------|--------------------------|-----------------------------|---------------------------|
| Physical State: | Paste | Evaporation Rate: | NA. |
| Appearance: | White or Beige in color. | pH (in water): | 7-10 |
| Odor: | Little | Boiling Point: | 212°F (100°C) |
| Vapor Pressure: | 17 mm Mercury at 20° C | Freezing Point: | 32°F (0°C) |
| Vapor Density: | Based on water, 0.62 | Viscosity: | About 500 Brabender units |
| Specific Gravity: | 0.9-1.7 | Solubility in Water: | Completely dispersed |
| Percent Volatile: | 30-60% by volume | VOC Content: | < 2 g/l |

Section 10: STABILITY AND REACTIVITY

- Stability:** Stable. Avoid contact with incompatible materials.
- Incompatibility:** Avoid all products that may react with water. The components of joint compound are incompatible with strong oxidizers, strong acids, diazomethane, ammonium salts, aluminum, fluorine and red phosphorous.
- Hazardous Polymerization:** None.
- Hazardous Decomposition:** Thermal decomposition may yield acrylic monomer vapors (above 177°C/350°F), sulfur oxides, formaldehyde, ammonia, and calcium oxide fumes (above 825°C). Formaldehyde will be generated when exposed to acidic conditions.

Section 11 and 12: TOXICOLOGICAL AND ECOLOGICAL INFORMATION

For questions regarding toxicological and ecological information refer to contact information in Section 1.


Section 13: DISPOSAL CONSIDERATIONS

Dispose of waste and containers in compliance with applicable Federal, State, Provincial and Local regulations.

Section 14: TRANSPORT INFORMATION

This product is not classified as a Hazardous Material under U.S. DOT or Canadian TDG regulations.

Section 15: REGULATORY INFORMATION

OSHA/MSHA Hazard Communication:	This product is considered by OSHA/MSHA to be a hazardous chemical and should be included in the employer's hazard communication program.
CERCLA/SUPERFUND:	This product is not listed as a CERCLA hazardous substance.
EPCRA SARA Title III:	This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 and is considered a hazardous chemical and a delayed health hazard.
EPRCA SARA Section 313:	This product contains none of the substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.
RCRA:	If discarded in its purchased form, this product would not be a hazardous waste either by listing or characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.
TSCA:	Crystalline silica is exempt from reporting under the inventory update rule.
California Proposition 65:	Crystalline silica (airborne particulates of respirable size) is known by the State of California to cause cancer.
WHMIS/DSL: 	Products containing crystalline silica, talc, and calcium carbonate are classified as D2A and are subject to WHMIS requirements.

Section 16: OTHER INFORMATION

Abbreviations:

>	Greater than	NA	Not Applicable
ACGIH	American Conference of Governmental Industrial Hygienists	NFPA	National Fire Protection Association
CAS No	Chemical Abstract Service number	NIOSH	National Institute for Occupational Safety and Health
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act	NTP	National Toxicology Program
CFR	Code for Federal Regulations	OSHA	Occupational Safety and Health Administration
CL	Ceiling Limit	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	pH	Negative log of hydrogen ion
EST	Eastern Standard Time	PPE	Personal Protective Equipment
HEPA	High-Efficiency Particulate Air	R	Respirable Particulate
HMIS	Hazardous Materials Identification System	RCRA	Resource Conservation and Recovery Act
IARC	International Agency for Research on Cancer	SARA	Superfund Amendments and Reauthorization Act
LC ₅₀	Lethal Concentration	T	Total Particulate
LD ₅₀	Lethal Dose	TDG	Transportation of Dangerous Goods
mg/m ³	Milligrams per cubic meter	TLV	Threshold Limit Value
MSHA	Mine Safety and Health Administration	TWA	Time Weighted Average (8 hour)
		WHMIS	Workplace Hazardous Materials Information System

Section 16: OTHER INFORMATION (continued)

This MSDS (Sections 1-16) was revised on April 30, 2013.

An electronic version of this MSDS is available at: www.lafarge-na.com under the Sustainability section.

Lafarge North America Inc. (LNA) believes the information contained herein is accurate; however, LNA makes no guarantees with respect to such accuracy and assumes no liability in connection with the use of the information contained herein which is not intended to be and should not be construed as legal advice or as insuring compliance with any federal, state or local laws or regulations. Any party using this product should review all such laws, rules, or regulations prior to use, including but not limited to US and Canada Federal, Provincial and State regulations.

NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE.

LOCTITE®

Revision Number: 003.1

Issue date: 10/10/2012

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: LOCTITE® C5-A® Copper Based Anti-Seize Lubricant
Product type: Lubricant
Company address:
 Henkel Corporation
 One Henkel Way
 Rocky Hill, Connecticut 06067

IDH number: 233317
Item number: 39643
Region: United States
Contact information:
 Telephone: 860.571.5100
 MEDICAL EMERGENCY Phone: Poison Control Center
 1-877-671-4608 (toll free) or 1-303-592-1711
 TRANSPORT EMERGENCY Phone: CHEMTREC
 1-800-424-9300 (toll free) or 1-703-527-3887
 Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

Physical state:	paste	HEALTH:	*1
Color:	copper	FLAMMABILITY:	1
Odor:	Mild	PHYSICAL HAZARD:	0
		Personal Protection:	See MSDS Section 8

CAUTION: MAY CAUSE EYE AND SKIN IRRITATION.

Relevant routes of exposure: Skin, Eyes

Potential Health Effects

Inhalation: This product has low volatility and is not expected to cause respiratory tract irritation during normal conditions of use. Inhalation of copper fumes may result in metal fume fever. Symptoms include metallic taste, discoloration of skin or hair.

Skin contact: Prolonged or repeated contact may cause irritation.

Eye contact: Contact with eyes will cause irritation.

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Principal hazard of ingestion is aspiration into the lungs and subsequent pneumonitis.

Existing conditions aggravated by exposure: Eye, skin, and respiratory disorders.

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous components	CAS NUMBER	%
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	30 - 60
Calcium dihydroxide	1305-62-0	10 - 30
Mineral oil light naphthenic hydrotreat. <3% DMSO	64742-53-6	10 - 30
Copper	7440-50-8	10 - 30
Graphite	7782-42-5	5 - 10
Quartz (SiO2)	14808-60-7	0.1 - 1

4. FIRST AID MEASURES

Inhalation:	Move to fresh air. If symptoms persist, seek medical advice.
Skin contact:	Wash with soap and water. If symptoms develop and persist, get medical attention.
Eye contact:	Get medical attention. Immediately flush eyes with plenty of water for at least 15 minutes.
Ingestion:	Aspiration may cause pulmonary edema and pneumonitis. Do not induce vomiting. Get medical attention.

5. FIRE FIGHTING MEASURES

Flash point:	> 93 °C (> 199.4 °F)
Autoignition temperature:	Not determined
Flammable/Explosive limits - lower:	Not determined
Flammable/Explosive limits - upper:	Not determined
Extinguishing media:	Carbon dioxide. Dry chemical. foam Water spray or fog.
Special firefighting procedures:	None
Unusual fire or explosion hazards:	None
Hazardous combustion products:	Oxides of carbon.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions:	Do not allow material to contaminate ground water system.
Clean-up methods:	Follow all local, state, federal and provincial regulations for disposal. Scrape up as much material as possible. Clean residue with soap and water.

7. HANDLING AND STORAGE

Handling:	Wash thoroughly after handling. Keep container closed. Avoid contact with eyes, skin and clothing.
Storage:	Keep in a cool, well ventilated area.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous components	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Distillates (petroleum), hydrotreated heavy naphthenic	5 mg/m3 TWA Inhalable fraction. 5 mg/m3 TWA mist 10 mg/m3 STEL mist	5 mg/m3 TWA mist 500 ppm (2,000 mg/m3) TWA 5 mg/m3 TWA Mist.	None	None
Calcium dihydroxide	5 mg/m3 TWA	5 mg/m3 TWA Respirable fraction. 15 mg/m3 TWA Total dust.	None	None
Mineral oil light naphthenic hydrotreat. <3% DMSO	5 mg/m3 TWA Inhalable fraction.	500 ppm (2,000 mg/m3) TWA 5 mg/m3 TWA Mist.	None	None
Copper	1 mg/m3 TWA (as Cu) Dust and mist. 0.2 mg/m3 TWA (as Cu) Fume.	0.1 mg/m3 TWA (as Cu) Fume. 1 mg/m3 TWA (as Cu) Dust and mist.	None	None
Graphite	2 mg/m3 TWA Respirable fraction.	15 mg/m3 TWA Total dust. 5 mg/m3 TWA Respirable fraction. 15 MPPCF TWA	None	None
Quartz (SiO2)	0.025 mg/m3 TWA Respirable fraction.	2.4 MPPCF TWA Respirable. 0.1 mg/m3 TWA Respirable. 0.3 mg/m3 TWA Total dust.	None	None

Engineering controls:

Use only with adequate ventilation. Local exhaust ventilation is recommended when general ventilation is not sufficient to control airborne contamination below occupational exposure limits.

Respiratory protection:

Use NIOSH approved respirator if there is potential to exceed exposure limit(s). Observe OSHA regulations for respirator use (29 CFR 1910.134).

Eye/face protection:

Goggles. Safety glasses with side-shields.

Skin protection:

Chemical resistant, impermeable gloves. Neoprene, Butyl-rubber, or nitrile-rubber gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	paste
Color:	copper
Odor:	Mild
Odor threshold:	Not available.
pH:	Not applicable
Vapor pressure:	< 5.0 mm hg
Boiling point/range:	> 260 °C (> 500°F)
Melting point/ range:	Not available.
Specific gravity:	1.30
Vapor density:	Heavier than air.
Flash point:	> 93 °C (> 199.4 °F)
Flammable/Explosive limits - lower:	Not determined
Flammable/Explosive limits - upper:	Not determined
Autoignition temperature:	Not determined
Evaporation rate:	Slower than ether.
Solubility in water:	Insoluble
Partition coefficient (n-octanol/water):	Not determined
VOC content:	Essentially Zero

10. STABILITY AND REACTIVITY

Stability:	Stable at normal conditions.
Hazardous reactions:	Will not occur.
Hazardous decomposition products:	Hydrocarbons. Oxides of carbon.
Incompatible materials:	Strong acids and strong bases. Oxidizing agents.
Conditions to avoid:	Prolonged exposure to heat.

11. TOXICOLOGICAL INFORMATION

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Distillates (petroleum), hydrotreated heavy naphthenic	No	No	No
Calcium dihydroxide	No	No	No
Mineral oil light naphthenic hydrotreat. <3% DMSO	No	No	No
Copper	No	No	No
Graphite	No	No	No
Quartz (SiO ₂)	Known To Be Human Carcinogen.	Group 1	No

Hazardous components	Health Effects/Target Organs
Distillates (petroleum), hydrotreated heavy naphthenic	Irritant
Calcium dihydroxide	Irritant, Corrosive
Mineral oil light naphthenic hydrotreat. <3% DMSO	Irritant
Copper	Allergen, Blood, Central nervous system, Developmental, Gastrointestinal, Immune system, Irritant, Kidney, Liver, Mutagen, Sensory, Skin
Graphite	Lung
Quartz (SiO ₂)	Immune system, Lung, Some evidence of carcinogenicity

12. ECOLOGICAL INFORMATION

Ecological information:	Not available.
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13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal:	Follow all local, state, federal and provincial regulations for disposal.
Hazardous waste number:	Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

The shipping classifications in this sections are for non-bulk packaging only (unless otherwise specified). Shipping classification may be different for bulk packaging.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name:	Environmentally hazardous substances, liquid, n.o.s. (Copper)
Hazard class or division:	9
Identification number:	UN 3082
Packing group:	III
Marine pollutant:	Copper
DOT Reportable quantity:	Copper

International Air Transportation (ICAO/IATA)

Proper shipping name: Environmentally hazardous substance, liquid, n.o.s.
Hazard class or division: 9
Identification number: UN 3082
Packing group: III

Water Transportation (IMO/IMDG)

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Copper)
Hazard class or division: 9
Identification number: UN 3082
Packing group: III
Marine pollutant: Copper

15. REGULATORY INFORMATION**United States Regulatory Information**

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12(b) Export Notification: None above reporting de minimus
CERCLA/SARA Section 302 EHS: None above reporting de minimis
CERCLA/SARA Section 311/312: Immediate Health
CERCLA/SARA 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Copper (CAS# 7440-50-8).
California Proposition 65: No California Proposition 65 listed chemicals are known to be present.

Canada Regulatory Information

CEPA DSL/NDL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.
WHMIS hazard class: D.2.A, D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: New information added in Section(s): 8

Prepared by: Lou Fabrizio, Regulatory Affairs Specialist

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MATERIAL SAFETY DATA SHEET

LPS® ThermaPlex® Hi-Temp Bearing Grease

Revision 3

Revision Date: 12/2/08

Supercedes:1/31/03

Section 1 – Identification

Product Name: LPS® ThermaPlex® Hi-Temp Bearing Grease

Part Number: 70214, 70206, 70235, 70255, C70214, C70206, C70235, C70255

Chemical Name: Petroleum Hydrocarbon

Product Use: A lubricating grease intended for high temperature industrial bearing applications.

Manufacturer Information: LPS Laboratories, 4647 Hugh Howell Rd., Tucker, GA, USA 30084

TEL: 1 770-243-8800

Emergency Telephone Number: 1-800-424-9300 Chemtrec;
Outside U.S.: (703) 527-3887

FAX: 1 770-243-8899

Website: <http://www.lpslabs.com>

PLAIN LANGUAGE HAZARD SUMMARY

Material Safety Data Sheets can be confusing. Federal and State laws require us to include a great deal of technical information that probably won't help the non-professional. LPS includes this "PLAIN LANGUAGE HAZARD SUMMARY" to address the questions and concerns of the average worker. If you have additional health, safety or product questions, don't hesitate to call us at 800/241-8334.

Worker Toxicity

LPS® ThermaPlex® Hi-Temp Bearing Grease is an industrial lubricant. LPS® ThermaPlex® Hi-Temp Bearing Grease is not a hazardous substance as defined by 29CFR 1910.1200. For more exposure and first aid information, refer to MSDS Sections 2, 8 and 11.

Flammability

LPS® ThermaPlex® Hi-Temp Bearing Grease flashpoint is greater than 446°F, and is nonflammable.

Disposal

Dispose of in accordance with local, state, provincial, and federal regulations. See section 13 for more details.



MATERIAL SAFETY DATA SHEET

LPS® ThermaPlex® Hi-Temp Bearing Grease

Revision 3

Revision Date: 12/2/08

Supersedes:1/31/03

Section 2 – Hazards identification

This material is considered non-hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Emergency Overview: WARNING: Prolonged or repeated skin contact may cause irritation.

Primary route(s) of entry: Skin and Eye contact.

Potential Acute Health Effects:

Eyes: Irritating to eyes

Skin: Repeated exposure may cause skin dryness or defatting of skin.

Inhalation: Oil mist may cause irritation of the respiratory tract.

Ingestion: This product has a low order of acute oral toxicity; however minute amount aspirated into lungs during ingestion may cause severe pulmonary injury.

Potential Chronic Health Effects:

Carcinogenic Effects: NTP: No OSHA: No ACGIH: No

Mutagenic Effects: None

Teratogenic Effects: None

Medical conditions aggravated by exposure: None known from normal exposure.

Signs and Symptoms:

Stinging in eyes. Repeated or prolonged skin contact can cause redness, irritation, and scaling of the skin (dermatitis).

Section 3 – Composition / Information on Ingredients

Component	CASRN	Weight Percent
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No hazardous ingredients are present at or above 1%.
This product is not WHMIS Controlled.



MATERIAL SAFETY DATA SHEET

LPS® ThermaPlex® Hi-Temp Bearing Grease

Revision 3

Revision Date: 12/2/08

Supersedes:1/31/03

Section 4 – First Aid Measures

- Eyes:** Check for and remove contact lenses. If irritation or redness develops, flush eyes with cool, clean, low-pressure water for at least 15 minutes. Hold eyelids apart to ensure complete irrigation of the eye and eyelid tissue. Do not use eye ointment. Seek medical attention immediately.
- Skin:** Remove contaminated shoes and clothing. Clean affected area thoroughly with mild soap and water. Do not use ointments. Seek medical attention if irritation persists.
- Inhalation:** Immediately move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). If breathing is difficult, seek medical attention immediately.
- Ingestion:** Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If spontaneous vomiting is about to occur, place victim's head below knees. If victim is drowsy or unconscious, place on the left side with head down. Do not leave victim unattended. Seek medical attention immediately.

Section 5 – Fire Fighting Measures

Products of Combustion: Carbon monoxide and carbon dioxide.

Firefighting media: Use CO₂, DRY chemical powder, water spray, fog or foam.

Sensitivity to Impact: None. **Sensitivity to Static Discharge:** None.

Protection Clothing (Fire): Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies.

Special Remarks on Explosion Hazards: None.

Section 6 – Accidental Release Measures

Containment Procedures Contain and recover spill when possible.

Clean-Up Procedures **Small Spill and Leak:** Absorb with an inert material and dispose of properly.

Large Spill and Leak: Prevent material from entering sewers and drains. Pick up for disposal using absorbent pads, sand, or other inert non-combustible absorbent materials. Place into appropriate waste containers for later disposal.

Evacuation Procedures Ventilate area of leak or spill. Keep unnecessary and unprotected people away.

Special Procedures Remove all sources of ignition. Ventilate area. Wear appropriate protective equipment during cleanup. Caution: slip hazard - take appropriate steps to remove residues after initial clean-up.



MATERIAL SAFETY DATA SHEET

LPS® ThermaPlex® Hi-Temp Bearing Grease

Revision 3

Revision Date: 12/2/08

Supersedes:1/31/03

Section 7 – Handling and Storage

Handling: Avoid contact with skin. Wash thoroughly after handling.

Storage: Keep containers sealed until ready for use. Avoid excessive long-term storage temperatures to prolong shelf life. Keep container in a cool, well-ventilated area. Store below 120°F.

Precautions to be taken in handling and storage: Store all materials in dry, well-ventilated area.

Section 8 – Exposure Controls / Personal Protection

Engineering measures Provide general and/or local exhaust ventilation to keep exposures below the exposure guidelines.

Personal protective equipment

Eye protection Safety glasses with side shields conforming to appropriate regulations. Eye wash fountain and emergency shower facilities are recommended.

Hand protection Normally no hand protection is required; however, using chemical resistant gloves (i.e., nitrile) is recommended.

Respiratory protection Typical use of this product under normal conditions does not require the use of respiratory protection. If necessary use NIOSH approved respiratory protection (i.e., organic vapor cartridge).

General Hygiene Considerations Wash thoroughly after handling. Have eye-wash facilities immediately available.

Section 9 – Physical and Chemical Properties

Appearance:	Paste	Color:	Brown
Odor/Taste:	Petroleum	Vapor Pressure:	Not Established
Solubility Description:	Nil	Evaporation Rate:	<1 (BuAc=1)
Boiling Point:	Not Established	Flash Point:	>230°C (446°F)
Specific Gravity (Water=1):	1	Flash Point Method:	TCC
Vapor Density (Air=1):	>1	Auto Ignition Temperature (°C):	Not Established
V.O.C. Content:	0	Partition Coefficient (octanol/water):	Not Established
Flammable limits (estimated):	LOWER: NE UPPER: NE	Viscosity:	Not Established
pH:	Not applicable	Odor threshold	Not Established
Melting Point	Not Established	Volatiles:	0
Decomposition Temperature	Not Established		



MATERIAL SAFETY DATA SHEET

LPS® ThermaPlex® Hi-Temp Bearing Grease

Revision 3

Revision Date: 12/2/08

Supersedes:1/31/03

Section 10 – Chemical Stability and Reactivity

Chemical Stability:	Product is stable under recommended storage conditions.
Conditions to Avoid:	No specific measures to avoid.
Incompatibility:	Reactive or incompatible with oxidizing agents.
Hazardous Decomposition:	These products are carbon oxides (CO, CO ₂).
Hazardous Polymerization:	Will not occur.

Section 11 – Toxicological Information

A: General Product Information

An acute toxicity study of this product has not been conducted.

Section 12 – Ecological Information

Mobility:	Absorbed slowly into soil.	Persistence and degradability:	Only slightly biodegradable.
Bioaccumulative potential:	No bioaccumulation potential.	Other adverse effects:	None Known

Section 13 – Disposal Considerations

Waste Status:	As sold, this product is not a RCRA hazardous waste (40 CFR 261).
Disposal:	Waste must be disposed of in accordance with national, regional, provincial, and local environmental control regulations.
Note:	Chemical additions to, processing of, or otherwise altering this material may make this waste management information inaccurate, incomplete, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive than federal laws and regulations.

Section 14 – Transportation Information

This material is not regulated by any mode of transportation.

Section 15 – Regulatory Information

U.S. Federal Regulations

RCRA Hazardous Waste No.: None.

Comprehensive Environmental Response and Liability Act of 1980 (CERCLA): None

Toxic Substances Control Act (TSCA):

All components of this product are TSCA inventory listed and/or are exempt.

Superfund Amendments and Reauthorization Act (SARA) Title III

SARA Section 311/312 (40 CFR 370) Hazard Categories: None

This product contains the following toxic chemical(s) subject to reporting requirements of SARA Section 313 (40 CFR 372): No individual section 313 component is present at or above 1%

Section 112 Hazardous Air Pollutants (HAPs): None



MATERIAL SAFETY DATA SHEET

LPS® ThermaPlex® Hi-Temp Bearing Grease

Revision 3

Revision Date: 12/2/08

Supersedes: 1/31/03

State Regulations

New Jersey RTK: Severely Solvent Refined Residium 64742-01-4 • Polyalphaolefin 68037-01-4 • Lithium 12-Hydroxystearate 7620-77-1 • Dilithium Adipate 18621-94-8 • Lithium Borate 12007-60-2

California: This product does not contain chemical(s) known to the State of California to cause cancer, birth defects or reproductive harm.

California and OTC States: This product is not regulated by consumer regulations.

International Regulations

Canadian Environmental Protection Act: All of the components of this product are included on the Canadian Domestic Substances list (DSL).

Canadian Workplace Hazardous Materials Information System (WHMIS):

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

WHMIS Classification:

Not WHMIS Controlled

Other Regulations

Montreal Protocol listed ingredients: None.

Stockholm Convention listed ingredients: None.

Rotterdam Convention listed ingredients: None.

RoHS Compliant: Yes.

Section 16 • Other Information

MSDS# 70214 Responsible Name: Clea Johnson Regulatory Affairs Coordinator	HMIS 1996		HMIS III		NFPA Flammability Health 1 0 Reactivity
	Health:	1	Health:	[/]1	
	Flammability:	1	Flammability:	1	
	Reactivity	0	Physical Hazard:	0	

Notice to Reader:

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Clea Johnson, Regulatory Affairs Coordinator
LPS Laboratories, A division of Illinois Tool Works

ITEM: 1JU74 - PK12 China Marker Blk

MSDS: B8509

ORDER: 0089725453

LP NUMBER: UI52055191

MATERIAL SAFETY DATA SHEET (MSDS)

This MSDS should be attached or kept with the respective product with which it is associated.

SAFETY DATA SHEET - B8509

Listed Grainger Items
1JU74, 1JU75, 1JU76, 1JU77, 1JU78, 1JU79

SANFORD(R) BRANDS

A NEWELL RUBBERMAID COMPANY

MATERIAL SAFETY DATA SHEET

MSDS #: 02089

SECTION ONE: IDENTIFICATION

SANFORD, L.P.
2701 BATTLEFIELD ROAD
DAVE HARRIS, FL 08523
USA
800-323-8749 OR 630-481-2000

EMERGENCY MEDICAL NUMBER: 888-786-0972

PRODUCT NAME: SANFORD CHINA MARKER

COLORS:
BLACK, RED, BLUE, GREEN, YELLOW, BRITE ORANGE, CRIMSON RED, WHITE,
THIN BLACK

SANFORD IS A MEMBER OF THE ART AND CREATIVE MATERIALS INSTITUTE, INC. THIS PRODUCT IS CERTIFIED BY THE INSTITUTE TO BE LABELED IN ACCORDANCE WITH THE VOLUNTARY CERAMIC HAZARD LABELING STANDARD ASTM D-4236 AND IS LABELED WITH THE AP NON TOXIC SEAL. PRODUCTS BEARING THE AP APPROVED PRODUCT SEAL OF THE ART AND CREATIVE MATERIALS INSTITUTE, INC. ARE CERTIFIED IN A PROGRAM OF TOXICOLOGICAL EVALUATION BY A MEDICAL EXPERT, SUBJECT TO REVIEW BY THE INSTITUTE TOXICOLOGY ADVISORY BOARD, TO CONTAIN NO MATERIALS IN SUFFICIENT QUANTITIES TO BE TOXIC OR IRRITANT TO HUMANS, OR TO CAUSE ACUTE TOXICITY OR CHRONIC HEALTH PROBLEMS.

SECTION TWO: HAZARD IDENTIFICATION

THIS PRODUCT IS CONSIDERED SAFE UNDER NORMAL USE CONDITIONS.

SECTION THREE: COMPOSITION

WAX, PIGMENTS, FILLERS

SECTION FOUR: FIRST AID MEASURES

INHALATION: THIS PRODUCT IS CONSIDERED SAFE UNDER NORMAL USE CONDITIONS.

SKIN CONTACT: THIS PRODUCT IS CONSIDERED SAFE UNDER NORMAL USE CONDITIONS.

EYE CONTACT: THIS PRODUCT IS CONSIDERED SAFE UNDER NORMAL USE CONDITIONS.

INGESTION: THIS PRODUCT IS CONSIDERED SAFE UNDER NORMAL USE CONDITIONS.

SECTION FIVE: FIRE FIGHTING MEASURES

FLASH POINT: N/A

FLAMMABILITY LIMITS (% BY VOLUME):

LOWER: N/A

UPPER: N/A

EXTINGUISHING MEDIA: N/A

SPECIAL FIRE FIGHTING MEASURES:

PENCIL PRODUCTS STORED IN BULK ARE SUBJECT TO IGNITION BY FIRE AND MAY, IN THE CASE OF A FIRE, RELEASE TOXIC AND OTHER IRRITATING GASES. A SELF-CONTAINED BREATHING APPARATUS SHOULD BE USED WHEN THERE IS A POTENTIAL EXPOSURE TO COMBUSTION PRODUCTS OF PENCILS BURNING IN BULK.

UNUSUAL FIRE AND EXPLOSION HAZARDS: N/A

SECTION SIX: ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILL OR ACCIDENTAL RELEASE: NORMAL CLEAN UP.

SECTION SEVEN: HANDLING AND STORAGE

HANDLING: NO SPECIAL HANDLING REQUIREMENTS.

STORAGE: NO SPECIAL STORAGE REQUIREMENTS.

SECTION EIGHT: EXPOSURE CONTROLS AND PERSONAL PROTECTION

EYE PROTECTION: NONE UNDER NORMAL USE CONDITIONS.

CLOTHING: NONE UNDER NORMAL USE CONDITIONS.

RESPIRATOR: NONE UNDER NORMAL USE CONDITIONS.

VENTILATION: NONE UNDER NORMAL USE CONDITIONS.

SECTION NINE: PHYSICAL AND CHEMICAL PROPERTIES

UNLESS OTHERWISE SPECIFIED:

BOILING POINT: N/A

SPECIFIC GRAVITY: N/A

VAPOR PRESSURE: N/A

SOLUBILITY IN WATER: N/A

EVAPORATION RATE: N/A

APPEARANCE/ODOR: COLORED PENCIL; NO ODOR

SECTION TEN: STABILITY AND REACTIVITY

STABILITY: STABLE

CONDITIONS TO AVOID: HIGH HEAT AND OPEN FLAME

CHEMICAL INCOMPATIBILITY: NONE KNOWN

HAZARDOUS DECOMPOSITION: NONE KNOWN

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

SECTION ELEVEN: TOXICOLOGICAL INFORMATION

SEE SECTION TWO: HAZARD IDENTIFICATION FOR ANY HAZARDS

SECTION TWELVE: ECOLOGICAL INFORMATION

NOT AVAILABLE

SECTION THIRTEEN: DISPOSAL CONSIDERATIONS

DISPOSE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.

SECTION FOURTEEN: TRANSPORT INFORMATION

DOT: NOT REGULATED

IATA: NOT REGULATED

IMO: NOT REGULATED

SECTION FIFTEEN: REGULATORY INFORMATION

TSCA:

THE PRODUCT LISTED ON THIS MATERIAL SAFETY DATA SHEET IS NOT LISTED ON THE TOXIC SUBSTANCES CONTROL ACT INVENTORY. ALL INGREDIENTS USED TO MANUFACTURE THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY

SECTION SIXTEEN: OTHER INFORMATION

HMIS CODE:

HEALTH N/A
FLAMMABILITY N/A
REACTIVITY N/A
PERSONAL PROTECTION N/A

0 = MINIMAL

4 = SEVERE

SANFORD HAS BEEN ADVISED BY COUNSEL THAT THE OSHA HAZARD COMMUNICATION STANDARD DOES NOT APPLY TO THE SANFORD PRODUCT DESCRIBED IN THIS MATERIAL SAFETY DATA SHEET. THE REASON FOR THE EXEMPTION IS CONTAINED IN 29 CFR 1910.1200(b)(6)(ix) AS AMENDED JULY 1, 2005 PER THE CODE OF FEDERAL REGULATIONS. THE INFORMATION CONTAINED IN THIS MSDS IS FORWARDED TO YOU FOR YOUR INFORMATION, BUT IS NOT MEANT TO IMPLY THAT THE PRODUCT IS COVERED BY THE HAZARD COMMUNICATION STANDARD NOR IS THIS MEANT TO COMPLY WITH ALL REQUIREMENTS OF THE HAZARD COMMUNICATION STANDARD.

FEBRUARY 1, 2007

MAPP GAS

☒ Close this window

MSDS

Common Name: MAPP GAS**Manufacturer:** BERNZOMATIC**MSDS Revision Date:** 11/10/2005**Grainger Item Number(s):** 3WA92, 4NE87, 6Z010**Manufacturer Model Number(s):**

MSDS Table of Contents

Click the desired link below to jump directly to that section in the MSDS.

[SECTION I](#)[SECTION II - HAZARDOUS INGREDIENTS / IDENTITY INFORMATION](#)[SECTION III - PHYSICAL / CHEMICAL CHARACTERISTICS](#)[SECTION IV - FIRE AND EXPLOSION HAZARD DATA](#)[SECTION V - REACTIVITY DATA](#)[SECTION VI - HEALTH HAZARD DATA](#)[SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE](#)[SECTION VIII - CONTROL MEASURES](#)[SECTION IX - SHIPPING INFORMATION](#)

MATERIAL SAFETY DATA SHEET

MAY BE USED TO COMPLY WITH OSHA'S HAZARD COMMUNICATION STANDARD 29 CFR 1910.1200. STANDARD MUST BE CONSULTED FOR SPECIFIC REQUIREMENTS.

U.S. DEPARTMENT OF LABOR

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (NON-MANDATORY FORM)

FORM APPROVED OMB NO.: 1218-0072

IDENTITY (AS USED ON LABEL AND LIST): MAPP GAS

NOTE:

BLANK SPACES ARE NOT PERMITTED. IF ANY ITEM IS NOT APPLICABLE, OR NO INFORMATION IS AVAILABLE, THE SPACE MUST BE MARKED TO INDICATE THAT.

SECTION I

top

SUPPLIER'S NAME: BERNZ-O-MATIC

ADDRESS:

NUMBER, STREET, CITY, STATE AND ZIP CODE:

ONE BERNZOMATIC DRIVE
MEDINA, NY 14103

EMERGENCY TELEPHONE NUMBER: 585-798-4949

TELEPHONE NUMBER FOR INFORMATION: 585-798-4949

DATE PREPARED: NOVEMBER 10, 2005

SIGNATURE OF PREPARER (OPTIONAL):

SECTION II - HAZARDOUS INGREDIENTS / IDENTITY INFORMATION



HAZARDOUS COMPONENTS SPECIFIC CHEMICAL IDENTITY, COMMON NAME(S)	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED	% (OPTIONAL)
---	-------------	--------------	-----------------------------	-----------------

LIQUEFIED PETROLEUM GAS W/METHYLACETYLENE	N/A	N/A	N/A	
--	-----	-----	-----	--

LIQUEFIED PETROLEUM GAS CAS NO.: 68476-85-7	1000 PPM			56.0
--	----------	--	--	------

METHYL ACETYLENE-PROPADIENE CAS NO.: 56960-91-9	1000 PPM			44.0
--	----------	--	--	------

NFPA HAZARD RATINGS:

HEALTH 2
FLAMMABILITY 4
REACTIVITY 2

HMIS RATINGS:

HEALTH 0
FLAMMABILITY 4
REACTIVITY 2

NOTES:

SECTION III - PHYSICAL / CHEMICAL CHARACTERISTICS



BOILING POINT: -54 DEG. F TO -10 DEG. F

SPECIFIC GRAVITY (H₂O = 1): 0.571

VAPOR PRESSURE (MMHg) @ 70 DEG. F: 97 PSIG

MELTING POINT: N/A

VAPOR DENSITY (AIR=1): 1.48

EVAPORATION RATE (BUTYL ACETATE = 1): N/A

SOLUBILITY IN WATER: SLIGHT

APPEARANCE AND ODOR: COLORLESS - UNPLEASANT ODOR AT APPROX. 100 PPM

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED):
CLOSED CUP: 156 DEG. F

FLAMMABLE LIMITS IN AIR BY VOLUME:
LEL: 3.0
UEL: 11.0

EXTINGUISHING MEDIA:
ELIMINATE OXYGEN SOURCE OR STOP FLOW OF GAS. USE WATER TO COOL CYLINDER.
DRY CHEMICAL OR CO2 TO REDUCE OXYGEN.

SPECIAL FIRE FIGHTING PROCEDURES:
COOL CYLINDERS WITH WATER. KEEP PERSONNEL AWAY.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
AUTO IGNITION TEMP. 850 DEG. F. KEEP IGNITION SOURCES AWAY FROM CYLINDER
AND CONTINUE TO COOL CYLINDER UNTIL GAS FLOW IS SHUT OFF. ESCAPING GAS FROM
CYLINDER MAY BE IGNITED.

SECTION V - REACTIVITY DATA

STABILITY:
UNSTABLE ()
STABLE (X)

CONDITIONS TO AVOID: DO NOT EXPOSE TO TEMPERATURES ABOVE 125 DEG. F.

INCOMPATIBILITY (MATERIALS TO AVOID):
EXTREMELY FLAMMABLE. AVOID UNCONTROLLED CONTACT WITH OXIDIZERS.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: NONE

HAZARDOUS POLYMERIZATION:
MAY OCCUR ()
WILL NOT OCCUR (X)

CONDITIONS TO AVOID: N/A

SECTION VI - HEALTH HAZARD DATA

ROUTES OF ENTRY:
INHALATION?: YES
SKIN?: YES
INGESTION?: UNLIKELY

HEALTH HAZARDS (ACUTE AND CHRONIC):
ASPHYXIAN. MAY REDUCE OXYGEN REQUIRED FOR BREATHING. LIQUID GAS MAY FREEZE
SKIN.

CARCINOGENICITY:
NTP?: N/A
IARC MONOGRAPHS?: N/A
OSHA REGULATED?: NO

SIGNS AND SYMPTOMS OF EXPOSURE:

DIZZINESS TO UNCONSCIOUSNESS IF HIGH CONCENTRATIONS OF GAS REPLACE OXYGEN & BREATHING.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: N/A

EMERGENCY AND FIRST AID PROCEDURES:

REMOVE PERSON TO FRESH AIR. IF UNCONSCIOUS, SEEK MEDICAL ATTENTION.

WARNING:

THIS FUEL, AND BYPRODUCTS OF COMBUSTION OF THIS FUEL, CONTAIN CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, AND OTHER REPRODUCTIVE HARM.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
REMOVE IGNITION SOURCES. VENTILATE AREA.

WASTE DISPOSAL METHOD:

VENT TO ATMOSPHERE IN OUTDOOR AREA FREE OF ALL SOURCES OF IGNITION.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

STORE IN WELL VENTILATED AREA AWAY FROM ALL IGNITION SOURCES.

STORE AT TEMPERATURES BELOW 125 DEG. F. STORE OUT OF DIRECT SUNLIGHT.

OTHER PRECAUTIONS: N/A

SECTION VIII - CONTROL MEASURES

RESPIRATORY PROTECTION (SPECIFY TYPE): NOT REQUIRED WITH NORMAL USE.

VENTILATION:

LOCAL EXHAUST: ADVISABLE WHEN WELDING.

MECHANICAL (GENERAL): N/A

SPECIAL: N/A

OTHER: N/A

PROTECTIVE GLOVES: ADVISABLE WHEN WELDING.

EYE PROTECTION: USE FILTER SHADE NO. 4 OR DARKER WHEN WELDING.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: N/A

WORK / HYGIENIC PRACTICES: N/A

SECTION IX - SHIPPING INFORMATION

HIS CLASSIFICATION:

COMPRESSED GAS &

B1 - FLAMMABLE GAS

CLASS: 2.1

DOT:

PROPER SHIPPING NAME: METHYL ACETYLENE AND PROPADIENE MIXTURES, STABILIZED

HAZARD CLASSIFICATION: FLAMMABLE GAS

DOT NO.: 1060



MATTHEWS PAINT

MPC107

Low VOC Satin Acrylic Polyurethane

Satin VOC MAP®

Satin VOC MAP gives you an easy way to get 3.5 or 2.8 VOC compliance and exceed even the toughest compliance regulations anywhere in the country, including California.

Satin VOC MAP applies, handles, covers and dries with the same extraordinary uniform finish as our conventional MAP® but with a natural satin finish, right out of the can. No more hassles trying to flatten high gloss compliant finishes with a post-add flattening agent.



Features:

- Satin-in-the-can
- Long-Term Durability

Benefits:

- No Post-add Flattening Agent
- Uniform Finish Mix After Mix
- Less Chance for Error
- Less time to mix
- Excellent Chemical and Corrosion Resistance
- Extremely Hard Finish

Compatible Surfaces:

Satin VOC MAP® HS 2.8 VOC & 3.5 VOC may be applied over:

6001SP Polyester Primer Surfacer	74 734SP/74 735SP Metal Pretreatment†
6010SP Flexible Sealer	74 760SP/74 766SP PT Filler†
274 228SP/274 229SP E Prime White 2.8	74 770SP/74 766SP HBPT†
274 685SP/274 686SP U Prime	74 780SP/74 781SP HBEF†
274 808SP/274 909SP Black Epoxy Primer*	74 777SP Tie Bond Adhesive†
274 908SP/274 909SP White Epoxy Primer*	74 793SP Spray Bond†

* 3.5 VOC application only † Specialty treatments, as exempted by local regulations

Required Products:

283 320SP Satin VOC Catalyst

3.5 VOC Reducers

6300SP	Cool Temperature 60 - 75°F (16 - 24°C)
6301SP	Warm Temperature 70 - 85°F (21 - 29°C)
6302SP	Hot Temperature 80°F (27°C) & above

2.8 VOC Reducers

6370SP	Exempt Cool Temperature, 60 - 75°F (16 - 24°C)
6371SP	Exempt Warm Temperature, 70 - 85°F (21 - 29°C)
6372SP	Exempt Hot Temperature, 80°F (27°C) & above

Satin VOC MAP[®]

Directions for Use

Surface Preparation:

Substrate should be prepared according to instructions prior to coatings applications.

Mix Ratios:

Mix Ratios (by volume):

2.8 VOC



Satin VOC MAP	283 320SP Satin VOC MAP Catalyst	6370SP, 6371SP or 6372SP Reducer
3 parts	1 part	1 part

3.5 VOC



Satin VOC MAP	283 320SP Satin VOC MAP Catalyst	6300SP, 6301SP or 6302SP Reducer
3 parts	1 part	1 part

- Catalyst and reducer should be mixed thoroughly before using.
- Spray viscosity should be 18 - 22 seconds (#2 Zahn cup).
- Strain material following mixing.
- Pot life of mixture is 8 hours @ 70°F (21°C).

Reducers:

Exempt MAP Reducers (2.8 VOC):

6370SP	Exempt Cool Temperature, 60 - 75°F (16 - 24°C)
6371SP	Exempt Warm Temperature, 70 - 85°F (21 - 29°C)
6372SP	Exempt Hot Temperature, 80°F (27°C) & above

Low VOC MAP Reducers (3.5 VOC):

6300SP	Cool Temperature, 60 - 75°F (16 - 24°C)
6301SP	Warm Temperature, 70 - 85°F (21 - 29°C)
6302SP	Hot Temperature, 80°F (27°C) & above

Additives:



None required, but the following may be used for specific application or project needs.

*287 437SP Accelerator

* Will exceed 2.8 or 3.5 VOC limits

Spray Set Up:



Air Pressure:

Conventional:	40 - 50 psi at the gun
HVLP:	10 psi at cap
Pot Pressure:	15 - 18 psi

Gun Set Up:

Siphon Feed:	1.4 mm 0.055 fluid tip
HVLP:	1.4 mm 0.055 fluid tip
Pressure Pot:	1.2 mm 0.046 fluid tip

Directions for Use

Application:



Apply: One full wet coat
Flash 5 - 10 minutes between coats
Follow with a second full wet coat
Apply additional coats as necessary to achieve total dry film thickness.

Recommended
Dry Film Thickness: 2 mils minimum (DFT)
Cured films MUST be scuff sanded before recoating to obtain maximum adhesion properties.

Caution: All 2 component cross-linking stops or slows significantly at temperatures below 60°F or 16°C. Never spray or subject freshly painted coatings to these conditions or loss of gloss, poor water and chemical resistance, decreased durability and improper curing will occur.

Factory Pack Colors:

SVOC 1304SP Satin Hi-Hide White

Drying Times:



Air Dry (50% relative humidity,
70°F / 21°C)

Dust Free	20 minutes
Tack Free	30 minutes
Tape Time	16 hours
Dry to Handle	3 hours
Dry to Clearcoat	10 minutes up to 24 hours

Equipment Cleaning:

Clean up equipment promptly with 45 340SP Cleanz-It or an all-purpose clean up solvent.

Do not leave mixed material in equipment.

Technical Data:

2.8 VOC Information

Satin VOC MAP	3.16
283 320SP Satin VOC MAP Catalyst	0.94
6370SP, 6371SP or 6372SP Reducer	Exempt
Ready to Spray (3:1:1)	2.8

3.5 VOC Information

Satin VOC MAP	3.16
283 320SP Satin VOC MAP Catalyst	0.94
6300SP, 6301SP or 6302SP Reducer	6.4
Ready to Spray (3:1:1)	3.33

Performance Characteristics

Volume Solids	36 - 43%
Volume Solids RTS	29 - 33%
Theoretical Coverage (1 mil @ 100% transfer efficiency)	500 sq.ft./gal.
Application Conditions	60°F (16°C) Minimum 100°F (38°C) Maximum
Relative Humidity	85% maximum 5° above dew point
Gloss	Satin
Flash Point (<i>Tag closed cup</i>)	Below 80°F (27°C)

Satin VOC MAP[®]

Low VOC Satin
Acrylic Polyurethane

Important:

The contents of this package may have to be blended with other components before the product can be used. Before opening the packages, be sure you understand the warning messages on the labels of all components, since the mixture will have the hazards of all its parts. Improper spray technique may result in a hazardous condition. Follow spray equipment manufacturer's instructions to prevent personal injury or fire. Follow directions for respirator use. Wear eye and skin protection. Observe all applicable precautions.

See Material Safety Data Sheet and Labels for additional safety information and handling instructions.

EMERGENCY MEDICAL OR SPILL CONTROL INFORMATION - US (412) 434-4515; CANADA (514) 645-1320; MEXICO 01-800-00-21-400

Materials described are designed for application by professional, trained personnel using proper equipment and are not intended for sale to the general public. Products mentioned may be hazardous and should only be used according to directions, while observing precautions and warning statements listed on label. Statements and methods described are based upon the best information and practices known to Matthews Paint. Procedures for applications mentioned are suggestions only and are not to be construed as representations or warranties as to performance, results, or fitness for any intended use, nor does Matthews Paint warrant freedom from patent infringement in the use of any formula or process set forth herein. If you require technical assistance, please call us toll-free 800/323-6593.



The World's Finest Coating For Architectural Signage

760 Pittsburgh Drive
Delaware, OH 43015
Toll Free: 800/323-6593
Toll Free FAX: 800/947-0377

Chemical Name	CAS Number
1,2,3-Propanetriol, methyloxirane polymer	Proprietary

Pennsylvania Right-to-Know:

The following non-hazardous ingredients are present in the product at greater than 3%:

Chemical Name	CAS Number
1,2,3-Propanetriol, methyloxirane polymer	Proprietary

California Proposition 65:

None.

Section 16 - Other Information**HMIS Ratings:**

Health: 2 Flammability: 2 Reactivity: 1 Personal Protection: X

Volatile Organic Compounds (VOC), less water less exempts: g/L: 194 lb/gal: 1.6 wt:wt%: 14.9

Volatile Organic Compounds (VOC), less water less exempts, less LVP-VOCs: wt:wt%: 14.9

REASON FOR REVISION: Periodic Update

Legend:

N.A. – Not Applicable

ACGIH – American Conference of Governmental Industrial Hygienists

N.E. – Not Established

SARA – Superfund Amendments and Reauthorization Act of 1986

N.D. – Not Determined

NJRTK – New Jersey Right-to-Know Law

VOC – Volatile Organic Compound

OSHA – Occupational Safety and Health Administration

PEL – Permissible Exposure Limit

HMIS – Hazardous Materials Identification System

TLV – Threshold Limit Value

NTP – National Toxicology Program

CEIL – Ceiling Exposure Limit

STEL – Short Term Exposure Limit

LD50 – Lethal Dose 50

LC50 – Lethal Concentration 50

F – Degree Fahrenheit

MSDS – Material Safety Data Sheet

C – Degree Celsius

CASRN – The Chemical Abstracts Service Registry Number

DAP believes the data and statements contained herein are accurate as of the date hereof. They are offered in good faith as typical values and not as a product specification. **NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE WITH REGARD TO THE INFORMATION HEREIN PROVIDED OR THE PRODUCT TO WHICH THE INFORMATION REFERS.** Since this document is intended only as a guide to the appropriate use and precautionary handling of the referenced product by a properly trained person, it is therefore the responsibility of the user to (i) review the recommendations with due consideration for the specific context of the intended use and (ii) determine if they are appropriate.

<End of MSDS>

MATERIAL SAFETY DATA SHEET

24 HOUR EMERGENCY NUMBER: INFOTRAC @ (800) 535-5053
(Code: MLO2AMSDS)

MOTSENBOCKER'S LIFT OFF
P.O. BOX 90947
SAN DIEGO, CA 92169
DATE: January 1, 2006

Product Information:
Toll Free: (800) 346-1633
Phone: (858) 581-0222
Fax: (858) 483-6965

1.0 PRODUCT IDENTIFICATION

- 1.1 Product Name: MOTSENBOCKER-S LIFT OFF #2
1.2 Product Type: Adhesives, Grease, Oily Stains & Tape Remover, Aerosol Can
1.3 Hazard Rating: Health 1 Fire 2 Reactivity 0

No ingredients in this product are subject to SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

2.0 HAZARDOUS COMPONENTS

2.0	HAZARDOUS COMPONENTS	TLV	ACGIH PEL	OSHA UNITS
2.1				
2.2	} Trade Secret	Not Established		
2.3		1000	1000	PPM
2.4	} Trade Secret	Not Established		
2.5		The identity of the component(s) responsible for the penetrating properties of this product is considered to be a trade secret. This product also contains trade secret ingredients. NJTSRN #407-01, 408-01, 407-02, 407-03, 415-01, 421-01.		

PEL = OSHA 8 Hour Average in Air

TWA = ACGIH 8 Hour Average in Air

3.0 PHYSICAL DATA

- 3.1 Appearance: Aerosol spraying a clear liquid.
3.2 Solubility in Water: Not determined.
3.3 pH: Not determined.
3.4 Vapor Density: Heavier than air

4.0 FIRE AND EXPLOSION DATA

- 4.1 Special Fire Hazards: Contents under pressure. Flammable.
4.2 Fire Fighting Methods: Carbon dioxide, dry chemical or foam.
Water may be ineffective - use water to keep containers cool.
4.3 Flashpoint: 144 F TCC

5.0 REACTIVITY DATA

- 5.1 Stability: Stable under normal conditions of handling.
 - 5.2 Conditions to Avoid: None known
-

6.0 SPILL OR LEAK PROCEDURES (USE PROPER PROTECTIVE EQUIPMENT)

- 6.1 Cleanup in case material is released or spilled:
Remove all sources of ignition. Ventilate and remove with inert absorbent.
 - 6.2 Waste Disposal: Waste from this product is not hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State and Local regulations regarding pollution.
-

7.0 HEALTH HAZARD DATA

CAUTION

- 7.1 Effects of Overexposure:
Skin: Contact with product can dry and defat skin, causing irritation or dermatitis.
Eyes: Causes eye redness or irritation.
IF SWALLOWED: May cause stomach distress.
If Inhaled: Deliberate inhalation of concentrated product spray can be harmful or fatal. Excessive airborne concentrations may cause breathing difficulties, dizziness, nausea or headaches.
-

8.0 FIRST AID

- 8.1 Eyes: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
 - 8.2 Skin: Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before re-use.
 - 8.3 If SWALLOWED: Never give anything by mouth to an unconscious person. DO NOT INDUCE VOMITING. Drink several glasses of water. Seek medical attention.
 - 8.4 If affected, remove from exposure. Restore breathing. Keep warm and quiet.
IF IRRITATION OR DISCOMFORT PERSISTS, CALL A PHYSICIAN.
-

9.0 PROTECTIVE MEASURES

- 9.1 Respiratory: Ventilate to maintain exposure below limits.
 - 9.2 When using this product for a long period of time or repeated contact, wear chemical resistant gloves and eye protection such as splash proof glasses.
-

10.0 ADDITIONAL INFORMATION / PRECAUTIONS

- 10.1 DOT Class: Consumer Commodity ORM-D.
- 10.2 Purposes of 02/25/00 issue: Change in formulation. VOC Compliant. EPA New Standards. California effective date 01/01/01.
- 10.3 Replaces previously dated January 01, 2003.

KEEP OUT OF REACH OF CHILDREN

The above information is believed to be correct with respect to the formula used to manufacture the product. As data, standards and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product Name Fluorescent Gas Leak Detector (4184)
CAS # Mixture
Product use Gas Leak Detector
Manufacturer Nu-Calgon
2008 Altom Court
St. Louis, MO 63146 US
Phone: 314-469-7000 / 800-554-5499
Emergency Phone: 1-800-424-9300 (CHEMTREC)

2. Hazards Identification

Emergency overview DANGER
Toxic.
Contains a potential teratogen.
EYE AND SKIN IRRITANT.

Potential short term health effects

Routes of exposure Eye, Skin contact, Skin absorption, Inhalation, Ingestion.

Eyes Causes irritation.

Skin Causes irritation. May be absorbed through the skin.

Inhalation May cause respiratory tract irritation.

Ingestion This product may be harmful or fatal if swallowed.
May cause stomach distress, nausea or vomiting.
Aspiration of material into lungs can cause chemical pneumonitis.

Target organs Eyes. Respiratory system. Skin. Kidney. Liver.

Chronic effects Prolonged or repeated exposure can cause drying, defatting and dermatitis. Prolonged or repeated overexposure can cause liver and kidney damage.

Signs and symptoms Although animal toxicity values do not meet criteria, ethylene glycol is toxic to humans. There are numerous human case reports of toxicity and death published in the literature.
Symptoms may include redness, edema, drying, defatting and cracking of the skin.
Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

OSHA Regulatory Status This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Potential environmental effects Components of this product have been identified as having potential environmental concerns.

3. Composition / Information on Ingredients

Ingredient(s)	CAS #	Percent
Ethylene glycol	107-21-1	10 - 30
Lauryldimethylamine oxide	1643-20-5	1 - 5

4. First Aid Measures

First aid procedures

Eye contact Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 15 minutes. Obtain medical attention immediately.

Skin contact Immediately flush with water. Wash with soap and water. Obtain medical attention if irritation persists.

Inhalation If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.

Ingestion Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Obtain medical attention. Never give anything by mouth if victim is unconscious, or is convulsing.

Notes to physician Symptoms may be delayed.

General advice

If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

5. Fire Fighting Measures

Flammable properties	Not flammable by WHMIS/OSHA criteria.
Extinguishing media	
Suitable extinguishing media	Carbon dioxide. Dry chemical powder. Foam. Water spray.
Unsuitable extinguishing media	Not available
Protection of firefighters	
Specific hazards arising from the chemical	Not available
Protective equipment for firefighters	Firefighters should wear full protective clothing including self contained breathing apparatus.
Hazardous combustion products	May include and are not limited to: Oxides of carbon.
Explosion data	
Sensitivity to mechanical impact	Not available
Sensitivity to static discharge	Not available

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
Environmental precautions	Do not discharge into lakes, streams, ponds or public waters.
Methods for containment	Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.
Methods for cleaning up	Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills in original containers for re-use.

7. Handling and Storage

Handling	Use good industrial hygiene practices in handling this material. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.
Storage	Keep out of reach of children. Store in a closed container away from incompatible materials.

8. Exposure Controls / Personal Protection

Exposure limits	Exposure Limits
Ingredient(s)	
Ethylene glycol	ACGIH-TLV Ceiling: 100 mg/m3 OSHA-PEL Not established
Lauryldimethylamine oxide	ACGIH-TLV Not established OSHA-PEL Not established
Engineering controls	Use only under good ventilation conditions or with respiratory protection.
Personal protective equipment	
Eye / face protection	Wear safety glasses with side shields.
Hand protection	Rubber gloves. Confirm with a reputable supplier first.
Skin and body protection	As required by employer code.
Respiratory protection	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. Avoid breathing mists or vapors.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Appearance	Fluorescent
Color	Yellow
Form	Liquid
Odor	Odorless
Odor threshold	Not available
Physical state	Liquid
pH	8.1 - 8.5
Melting point	Not available
Freezing point	Not available
Boiling point	Not available
Pour point	Not available
Evaporation rate	Not available
Flash point	> 220 °F (> 104.44 °C)
Auto-ignition temperature	Not available
Flammability limits in air, lower, % by volume	Not available
Flammability limits in air, upper, % by volume	Not available
Vapor pressure	Not available
Vapor density	Not available
Specific gravity	Not available
Relative density	8.54 lbs/gallon
Octanol/water coefficient	Not available
Solubility (H ₂ O)	Not available
Viscosity	375 CPs
Percent volatile	Not available

10. Stability and Reactivity

Reactivity	This product may react with strong acids.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Do not mix with other chemicals.
Incompatible materials	Caustics. Acids. Oxidizers.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon.

11. Toxicological Information

Acute effects	Although animal toxicity values do not meet criteria, ethylene glycol is toxic to humans. There are numerous human case reports of toxicity and death published in the literature.
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Component analysis - LC50

Ingredient(s)	LC50
Ethylene glycol	Not available
Lauryldimethylamine oxide	Not available

Component analysis - Oral LD50

Ingredient(s)	LD50
Ethylene glycol	7500 mg/kg mouse; 6.6 g/kg guinea pig; 5 g/kg rabbit
Lauryldimethylamine oxide	2700 mg/kg mouse

Effects of acute exposure

Eye	Causes irritation.
-----	--------------------

Skin	Causes irritation. May be absorbed through the skin.
Inhalation	May cause respiratory tract irritation.
Ingestion	This product may be harmful or fatal if swallowed. May cause stomach distress, nausea or vomiting. Aspiration of material into lungs can cause chemical pneumonitis.
Sensitization	Non-hazardous by WHMIS/OSHA criteria.
Chronic effects	Non-hazardous by WHMIS/OSHA criteria.
Carcinogenicity	See below.
ACGIH - Threshold Limit Values - Carcinogens	
Ethylene glycol	107-21-1 A4 - Not Classifiable as a Human Carcinogen
Mutagenicity	Non-hazardous by WHMIS/OSHA criteria.
Reproductive effects	Non-hazardous by WHMIS/OSHA criteria.
Teratogenicity	In rats and mice exposed to ethylene glycol, embryotoxic (late resorptions), fetotoxic (reduced fetal body weight) and teratogenic (external, soft tissue and skeletal defects) effects were observed at relatively high oral doses that caused no or minimal maternal toxicity.
Name of Toxicologically Synergistic Products	Not available

12. Ecological Information

Ecotoxicity	Components of this product have been identified as having potential environmental concerns.	
Ecotoxicity - Freshwater Algae - Acute Toxicity Data		
Ethylene glycol	107-21-1	96 Hr EC50 Pseudokirchneriella subcapitata: 6500 - 13000 mg/L
Ecotoxicity - Freshwater Fish - Acute Toxicity Data		
Ethylene glycol	107-21-1	96 Hr LC50 Oncorhynchus mykiss: 41000 mg/L; 96 Hr LC50 Oncorhynchus mykiss: 14 - 18 mL/L [static]; 96 Hr LC50 Lepomis macrochirus: 27540 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 40761 mg/L [static]; 96 Hr LC50 Pimephales promelas: 40000 - 60000 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 16000 mg/L [static]
Ecotoxicity - Water Flea - Acute Toxicity Data		
Ethylene glycol	107-21-1	48 Hr EC50 Daphnia magna: 46300 mg/L
Persistence / degradability	Not available	
Bioaccumulation / accumulation	Not available	
Mobility in environmental media	Not available	
Environmental effects	Not available	
Aquatic toxicity	Not available	
Partition coefficient	Not available	
Chemical fate information	Not available	
Other adverse effects	Not available	

13. Disposal Considerations

Disposal instructions	Review federal, provincial, and local government requirements prior to disposal.
Waste from residues / unused products	Not available
Contaminated packaging	Not available

14. Transport Information

U.S. Department of Transportation (DOT)	Not regulated as dangerous goods.
Transportation of Dangerous Goods (TDG - Canada)	Not regulated as dangerous goods.

15. Regulatory Information

Canadian federal regulations

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Canada - WHMIS - Ingredient Disclosure List

Ethylene glycol	107-21-1	1 %
Lauryldimethylamine oxide	1643-20-5	1 %

WHMIS status

Controlled

WHMIS classification

Class D - Division 1B, 2A, 2B

WHMIS labeling



Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

US Federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

Ethylene glycol 107-21-1 5000 Lb final RQ; 2270 kg final RQ

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

Ethylene glycol 107-21-1 1.0 % de minimis concentration

CERCLA (Superfund) reportable quantity

1,2-Ethanediol: 5000.0000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance

No

Section 311 hazardous chemical

Yes

Clean Air Act (CAA)

Not available

Clean Water Act (CWA)

Not available

State regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances

Ethylene glycol 107-21-1 Present (exempt when vapors or particulates are formed due to work practices or procedures)

U.S. - Illinois - Toxic Air Contaminants

Ethylene glycol 107-21-1 Present

U.S. - Louisiana - Reportable Quantity List for Pollutants

Ethylene glycol 107-21-1 5000 Lb RQ (applies to unauthorized emissions based on total mass emitted into or onto all media within any consecutive 24-hour period); 5000 lb RQ (applies to unauthorized emissions based on total mass emitted into the atmosphere)

U.S. - Massachusetts - Right To Know List

Ethylene glycol 107-21-1 Present

U.S. - Minnesota - Hazardous Substance List

Ethylene glycol 107-21-1 Present (particulate and vapor)

U.S. - New Jersey - Right to Know Hazardous Substance List

Ethylene glycol 107-21-1 sn 0878

U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances

Ethylene glycol 107-21-1 1 Lb RQ (air); 1 lb RQ (land/water)

U.S. - Pennsylvania - RTK (Right to Know) List

Ethylene glycol 107-21-1 Environmental hazard

U.S. - Rhode Island - Hazardous Substance List

Ethylene glycol 107-21-1 Toxic; Flammable

Inventory name**Country(s) or region**

Canada

Canada

United States & Puerto Rico

Inventory name

Domestic Substances List (DSL)

Non-Domestic Substances List (NDSL)

Toxic Substances Control Act (TSCA) Inventory

On inventory (yes/no)*

Yes

No

Yes

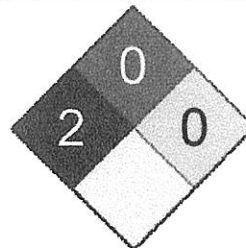
A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Disclaimer**Issue date****Effective date****Expiry date****Prepared by****Other information**

Health	* 2
Flammability	0
Physical Hazard	0
Personal Protection	B



Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

07-Jan-2011

15-Feb-2011

15-Feb-2014

Nu-Calgon Technical Service (314) 469-7000

For an updated MSDS, please contact the supplier/manufacture listed on the first page of the document.



MATERIAL SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

<u>Company Name</u> Calgon Wholesaler, Inc.	<u>Phone Number</u> (314) 469-7000 / (800) 554-5499		<u>CHEMTREC</u> (800) 424-9300	
<u>Street Address</u> 2008 Altom Court	<u>City</u> St. Louis	<u>State</u> MO	<u>Postal Code</u> 63146-4151	<u>Last Update</u> 1/31/13
<u>Product Name</u> Aerosol V-Belt Dressing	<u>Product Number</u> 4086-03	<u>Product Use</u> Belt dressing		<u>EPA Registration #</u> N/A

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients	% By Wt.	CAS Number	TLV	PEL
Heptane	40 - 50	142-82-5	400 ppm	500 ppm
Propane	10 - 15	74-98-6	1000 ppm	1000 ppm
Isobutane	10 - 15	75-28-5	800 ppm	800 ppm
Stoddard solvent	10 - 15	8052-41-3	100 ppm	100 ppm
Polybutene	10 - 15	9003-29-6	N/E	N/E

SECTION 3 – HAZARD IDENTIFICATION

Emergency Overview: DANGER: Extremely flammable. May be harmful or fatal if swallowed. Ensure adequate ventilation. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 122°F (50°C). Keep away from open flames, hot surfaces and sources of ignition. KEEP OUT OF REACH OF CHILDREN

Potential Health Effects

Eyes: Mild eye irritation

Skin: May cause skin irritation and/or dermatitis.

Ingestion: Aspiration may cause pulmonary oedema and pneumonitis. May be harmful or fatal if swallowed.

Inhalation: Inhalation of high vapour concentrations may cause nasal & respiratory irritation and symptoms like headache, dizziness, tiredness, nausea, vomiting and possible unconsciousness.

Chronic Exposure: Chronic exposure may cause nausea and vomiting, higher exposure causes unconsciousness.

Carcinogenicity: None known

Medical Conditions Aggravated by Exposure: May aggravate existing eye, skin, or upper respiratory conditions

SECTION 4 – FIRST AID MEASURES

Eyes: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If eye irritation persists, consult a specialist

Skin: Wash off with soap and water. If skin irritation persists, call a physician

Ingestion: DO NOT INDUCE VOMITING. Never give anything by mouth to an unconscious person. Clean mouth with water and afterwards drink plenty of water. Call a physician or Poison Control Centre immediately

Inhalation: Move to fresh air. If not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth. Obtain medical attention

SECTION 5 – FIREFIGHTING MEASURES

Flash Point: No Data. °F

Autoignition Temp: No Data. °C/No Data. °F

Hazardous Products of Combustion: Carbon oxides

Flammable Limits in Air: No Data.

Extinguishing Media: Carbon dioxide (CO2). Foamy spray. Dry chemical.

Fire and Explosion Hazards: Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 122°F (50°C)

Special Firefighting Procedures: Water mist may be used to cool closed containers.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Spill or Leak: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Dispose of in accordance with local regulations.

SECTION 7 – HANDLING AND STORAGE

Handling Procedures and Equipment: Ensure adequate ventilation, especially in confined areas. Avoid contact with skin and eyes. Do not pierce or burn, even after use. Do not spray on naked flame or any incandescent material.

Storage Requirements: KEEP OUT OF REACH OF CHILDREN. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 122°F (50°C).

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection: When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

Eye Protection: Safety glasses with side-shields

Protective Clothing: Neoprene gloves

Exposure Guidelines: See section 2

Specific Engineering Controls (such as ventilation, enclosed process): Ensure adequate ventilation, especially in confined areas

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Aerosol	Freezing Point: No Data.°C/No Data.°F	% Volatile by Weight: 88.8; per US EPA Definition%
Color: Yellow	Vapor Density [air =1]: No Data.	Evaporation Rate: No Data.
Odor: Solvent	Vapor Pressure: PSIG @ 70°F (Aerosols): Max. 50.	Specific Gravity: 0.74 (Concentrate only)
Boiling Point: No Data.°C/No Data.°F	Solubility in Water: Insoluble.	pH (concentrate): No Data.

SECTION 10 – STABILITY AND REACTIVITY

Chemical Stability: Stable under normal conditions

Hazardous Polymerization: Hazardous polymerization does not occur

Incompatibilities: Strong oxidizing agents, alkalis, Amines, Potassium, Sodium and Magnesium

Reactive Conditions to avoid: Heat, flames and sparks. Extremes of temperature

Decomposition Products: Carbon oxides

SECTION 11 – TOXICOLOGICAL INFORMATION

Hazardous Ingredients	CAS #	EINECS #	LD 50 of Ingredient (Specify Species)	LC50 of Ingredient (Specify Species)
Heptane	142-82-5	No Data.	No Data.	Inhalation LC50 Rat: 103 g/m3/4H
Propane	74-98-6	No Data.	No Data.	No Data.
Isobutane	75-28-5	No Data.	No Data.	Inhalation LC50 Rat: 57 pph/15M
Stoddard solvent	8052-41-3	No Data.	No Data.	No Data.
Polybutene	9003-29-6	No Data.	No Data.	No Data.

SECTION 12 – ECOLOGICAL INFORMATION

<u>Hazardous Ingredients</u>	<u>Aquatic Toxicity Data</u>
Heptane	24 Hr LC50 goldfish: 4.0 mg/L; 24 Hr LC50 mosquito fish: 4900 mg/L; 96 Hr LC50 cichlid fish: 375.0 mg/L
Propane	No Data.
Isobutane	No Data.
Stoddard solvent	No Data.
Polybutene	No Data.

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Disposal: Should not be released into the environment. Dispose of in accordance with local regulations.

SECTION 14 – TRANSPORTATION INFORMATION

Special Shipping Information: No Data.

<u>Purview</u>	<u>Proper Shipping Name</u>	<u>UN Number</u>	<u>Packing Group</u>	<u>Hazard Class</u>
DOT (Land)	Consumer Commodity ORM-D	No Data.	No Data.	No Data.
IMO (Water)	No Data.	No Data.	No Data.	No Data.
ICAO (Air)	Aerosol, Flammable	UN1950	No Data.	2.1

SECTION 15 – REGULATORY INFORMATION

WHMIS Classification: (Workplace Hazardous Material Information System)	A, B1, B2, D2B
SARA Title III: (Superfund Amendments & Reauthorization Act)	No
MSHA: (Occupational Safety & Health Administration)	See Section 2
TSCA: (Toxic Substance Control Act)	Present
VOC: (volatile Organic Compounds)	88.8%
CPR: (Canadian Controlled Products Regulations)	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations.
EINECS: (European Inventory of Existing Commercial Chemical Substances)	No Data.
DSL / NDSL: (Canadian Domestic Substance List)(Non-Domestic Substance List)	Present
CERCLA: (Comprehensive Response Compensation & Liability Act)	No Data.
IDL: (Canadian Ingredient Disclosure List)	No Data.
NFPA (HMIS) Rating: (Hazardous Materials Identification System)	Health=2; Fire=3; Reactivity=0 Personal protective equipment = B

SECTION 16 – OTHER INFORMATION

No Data.

The information contained herein is based on the data available to us and is believed to be correct. However, Nu-Calgon Wholesaler Inc. makes no warranty, expressed, or implied, regarding the accuracy of this data or the results to be obtained from the use thereof. Nu-Calgon Wholesaler Inc. assumes no liability for injury from the use of the product described herein.



MATERIAL SAFETY DATA SHEET

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1. Product and Company Identification

Product Name Evap Foam No Rinse-Aerosol (4171)
CAS # Mixture
Product use Cleaner
Manufacturer Nu-Calgon
2008 Altom Court
St. Louis, MO 63146 US
Phone: 314-469-7000 / 800-554-5499
Emergency Phone: 1-800-424-9300 (CHEMTREC)

2. Hazards Identification

Emergency overview WARNING
Contents under pressure. Containers may explode when heated.
May cause severe irritation or burns to the eyes, skin, gastrointestinal tract, and respiratory system.

Potential short term health effects

Routes of exposure Eye, Skin contact, Skin absorption, Inhalation, Ingestion.

Eyes May cause severe irritation or chemical burns.

Skin As per Policy Issue Sheet Number 60, strongly acidic or alkaline substances with a demonstrated pH of 2 or less or 11.5 or greater, need not be tested for primary dermal irritation, owing to their predictable corrosive properties.
In lieu of skin corrosivity test data on animals, this product is considered corrosive in Canada based on the pH of the product as a whole.
May cause severe irritation or chemical burns. May be absorbed through the skin.

NIOSH - Pocket Guide - Skin Notations
Ethylene glycol monobutyl ether 111-76-2 Potential for dermal absorption

Inhalation Excessive intentional inhalation may cause respiratory tract irritation and central nervous system effects (headache, dizziness).
Aspiration of material into lungs can cause chemical pneumonitis.

Ingestion Not a normal route of exposure. May cause stomach distress, nausea or vomiting.

Target organs Blood. Eyes. Kidney. Liver. Respiratory system. Skin.

Chronic effects Prolonged or repeated exposure can cause drying, defatting and dermatitis.

Signs and symptoms Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
Symptoms may include redness, edema, drying, defatting and cracking of the skin.

OSHA Regulatory Status This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Potential environmental effects See section 12.

3. Composition / Information on Ingredients

Ingredient(s)	CAS #	Percent
Butane	106-97-8	1 - 5
Diethylene glycol monoethyl ether	111-90-0	1 - 5
Ethylene glycol monobutyl ether	111-76-2	1 - 5
Propane	74-98-6	1 - 5
Tetrasodium ethylenediamine tetraacetate	64-02-8	1 - 5

4. First Aid Measures

First aid procedures

Eye contact Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 15 minutes. Obtain medical attention immediately.

Skin contact Immediately flush with water. Wash with soap and water. Obtain medical attention if irritation persists.

Inhalation	If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention. If breathing has stopped, trained personnel should administer CPR immediately.
Ingestion	Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.
General advice	Keep away from sources of ignition. No smoking. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

5. Fire Fighting Measures

Flammable properties	Non-flammable aerosol by flame projection test. Aerosol flame extension: None Containers may explode when heated.
Extinguishing media	
Suitable extinguishing media	Carbon dioxide. Dry chemical. Foam.
Unsuitable extinguishing media	Not available
Protection of firefighters	
Specific hazards arising from the chemical	Contents under pressure. Pressurized container may explode when exposed to heat or flame. Cool containers with flooding quantities of water until well after fire is out.
Protective equipment for firefighters	Firefighters should wear full protective clothing including self contained breathing apparatus.
Hazardous combustion products	May include and are not limited to: Oxides of carbon.
Explosion data	
Sensitivity to mechanical impact	Not available
Sensitivity to static discharge	Not available

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.
Methods for containment	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.
Methods for cleaning up	Before attempting clean up, refer to hazard data given above. Remove sources of ignition. Although the chance of a significant spill or leak is unlikely in aerosol containers, in the event of such an occurrence, absorb spilled material with a non-flammable absorbent such as sand or vermiculite.

7. Handling and Storage

Handling	Use good industrial hygiene practices in handling this material. Do not get this material in your eyes, on your skin, or on your clothing.
Storage	Keep out of reach of children. Do not store at temperatures above 49 °C (120.2°F). Keep away from heat, open flames or other sources of ignition.

8. Exposure Controls / Personal Protection

Exposure limits

Ingredient(s)	Exposure Limits
Butane	ACGIH-TLV TWA: 1000 ppm OSHA-PEL Not established
Diethylene glycol monoethyl ether	ACGIH-TLV TWA: 25 ppm OSHA-PEL Not established
Ethylene glycol monobutyl ether	ACGIH-TLV TWA: 20 ppm OSHA-PEL TWA: 50 ppm
Propane	ACGIH-TLV TWA: 1000 ppm OSHA-PEL TWA: 1000 ppm
Tetrasodium ethylenediamine tetraacetate	ACGIH-TLV Not established OSHA-PEL TWA: 15 mg/m3

Engineering controls

General ventilation normally adequate.

Personal protective equipment

Eye / face protection

Wear chemical goggles.

Hand protection

Rubber gloves. Confirm with a reputable supplier first.

Skin and body protection

As required by employer code.

Respiratory protection

Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

When using do not eat or drink.

Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Appearance	Compressed liquefied gas
Color	Milky
Form	Aerosol
Odor	Lemon lime
Odor threshold	Not available
Physical state	Gas
pH	12.3
Melting point	Not available
Freezing point	Not available
Boiling point	388.40 - 401.00 °F (198 - 205 °C)
Pour point	Not available
Evaporation rate	Not available
Flash point	Not available
Auto-ignition temperature	Not available
Flammability limits in air, lower, % by volume	Not available

Flammability limits in air, upper, % by volume	Not available
Vapor pressure	65 Psi @ 70°F
Vapor density	Not available
Specific gravity	Not available
Octanol/water coefficient	Not available
Solubility (H2O)	Not available
VOC (Weight %)	Not available
Viscosity	Not available
Percent volatile	Not available

10. Stability and Reactivity

Reactivity	This product may react with strong oxidizing agents.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Reacts violently with acids. Do not mix with other chemicals. Aerosol containers are unstable at temperatures above 49°C (120.2°F).
Incompatible materials	Acids. Oxidizing agents.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon.

11. Toxicological Information

Component analysis - LC50

Ingredient(s)	LC50
Butane	658 mg/l/4h rat
Diethylene glycol monoethyl ether	5240.0001 mg/l/4h rat
Ethylene glycol monobutyl ether	2.21 mg/l/4h rat
Propane	Not available
Tetrasodium ethylenediamine tetraacetate	Not available

Component analysis - Oral LD50

Ingredient(s)	LD50
Butane	Not available
Diethylene glycol monoethyl ether	5500 mg/kg rat
Ethylene glycol monobutyl ether	470 mg/kg rat; 320 mg/kg rabbit
Propane	Not available
Tetrasodium ethylenediamine tetraacetate	2000 mg/kg rat

Effects of acute exposure

Eye

May cause severe irritation or chemical burns.

Skin

As per Policy Issue Sheet Number 60, strongly acidic or alkaline substances with a demonstrated pH of 2 or less or 11.5 or greater, need not be tested for primary dermal irritation, owing to their predictable corrosive properties.
In lieu of skin corrosivity test data on animals, this product is considered corrosive in Canada based on the pH of the product as a whole.

May cause severe irritation or chemical burns. May be absorbed through the skin.

NIOSH - Pocket Guide - Skin Notations

Ethylene glycol monobutyl ether 111-76-2 Potential for dermal absorption

Inhalation

Excessive intentional inhalation may cause respiratory tract irritation and central nervous system effects (headache, dizziness).
Aspiration of material into lungs can cause chemical pneumonitis.

Ingestion

Not a normal route of exposure. May cause stomach distress, nausea or vomiting.

Sensitization

Non-hazardous by WHMIS/OSHA criteria.

Chronic effects

Non-hazardous by WHMIS/OSHA criteria.

Carcinogenicity

See below.

ACGIH - Threshold Limit Values - Carcinogens

Ethylene glycol monobutyl ether 111-76-2

A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

IARC - Group 3 (Not Classifiable)

Ethylene glycol monobutyl ether 111-76-2

Monograph 88 [2006]

Mutagenicity

Non-hazardous by WHMIS/OSHA criteria.

Reproductive effects

Non-hazardous by WHMIS/OSHA criteria.

Teratogenicity

Non-hazardous by WHMIS/OSHA criteria.

Name of Toxicologically Synergistic

Not available

Products

12. Ecological Information

Ecotoxicity

Components of this product have been identified as having potential environmental concerns.

Ecotoxicity - Freshwater Algae - Acute Toxicity Data

Tetrasodium ethylenediamine 64-02-8 72 Hr EC50 Desmodesmus subspicatus: 1.01 mg/L tetraacetate

Ecotoxicity - Freshwater Fish - Acute Toxicity Data

Diethylene glycol monoethyl ether 111-90-0 96 Hr LC50 Oncorhynchus mykiss: 11400-15700 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: 11600-16700 mg/L [flow-through]; 96 Hr LC50 Lepomis macrochirus: 10000 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 19100-23900 mg/L [flow-through]; 96 Hr LC50 Salmo gairdneri: 13400 mg/L [flow-through]

Ethylene glycol monobutyl ether 111-76-2 96 Hr LC50 Lepomis macrochirus: 1490 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 2950 mg/L
Tetrasodium ethylenediamine 64-02-8 96 Hr LC50 Lepomis macrochirus: 41 mg/L [static]; 96 Hr LC50 Pimephales promelas: 59.8 mg/L [static] tetraacetate**Ecotoxicity - Water Flea - Acute Toxicity Data**

Diethylene glycol monoethyl ether 111-90-0 48 Hr EC50 Daphnia magna: 3940 - 4670 mg/L

Ethylene glycol monobutyl ether 111-76-2 24 Hr EC50 Daphnia magna: 1698 - 1940 mg/L; 48 Hr EC50 Daphnia magna: >1000 mg/L

Tetrasodium ethylenediamine 64-02-8 24 Hr EC50 Daphnia magna: 610 mg/L tetraacetate

Persistence / degradability

Not available

Bioaccumulation / accumulation

Not available

Mobility in environmental media

Not available

Environmental effects

Not available

Aquatic toxicity

Not available

Partition coefficient

Not available

Chemical fate information

Not available

Other adverse effects

Not available

13. Disposal Considerations

Disposal instructions

Dispose in accordance with all applicable regulations.

Waste from residues / unused products

Not available

Contaminated packaging

Not available

14. Transport Information

U.S. Department of Transportation (DOT)

CONSUMER COMMODITY ORM-D or LIMITED QUANTITY.

Transportation of Dangerous Goods (TDG - Canada)

CONSUMER COMMODITY or LIMITED QUANTITY

15. Regulatory Information

Canadian federal regulations

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Canada - CEPA - High Priority Chemicals as Identified by DSL Categorization

Butane 106-97-8 Batch 4, published November 17, 2007

Canada - CEPA - Schedule I - List of Toxic Substances

Ethylene glycol monobutyl ether 111-76-2 Present

Canada - WHMIS - Ingredient Disclosure List

Butane 106-97-8 1 %

Diethylene glycol monoethyl ether 111-90-0 1 %

Ethylene glycol monobutyl ether 111-76-2 1 %

WHMIS status

Controlled

WHMIS classification

Class A - Compressed Gas, Class E - Corrosive Material

WHMIS labeling



Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

US Federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

U.S. - CAA (Clean Air Act) - Accidental Release Prevention - Flammable Substances

Butane 106-97-8 10000 lb threshold quantity

Propane 74-98-6 10000 lb threshold quantity

U.S. - CAA (Clean Air Act) - HON Rule - SOCM Chemicals

Diethylene glycol monoethyl ether 111-90-0 Group I

Ethylene glycol monobutyl ether 111-76-2 Group I

U.S. - CAA (Clean Air Act) - Reactivity Factors for VOCs in Aerosol Coatings

Butane 106-97-8 1.33 G Ozone/g VOC Reactivity Factor

Diethylene glycol monoethyl ether 111-90-0 3.19 G Ozone/g VOC Reactivity Factor

Ethylene glycol monobutyl ether 111-76-2 2.90 G Ozone/g VOC Reactivity Factor

Propane 74-98-6 0.56 G Ozone/g VOC Reactivity Factor

U.S. - CAA (Clean Air Act) - SNAP Program Listing of Substitutes for ODSs

Butane 106-97-8 Acceptable substitute for: 6

Propane 74-98-6 Acceptable substitute for: 6, 7

U.S. - CAA (Clean Air Act) - Volatile Organic Compounds (VOCs) in SOCM

Diethylene glycol monoethyl ether 111-90-0 Present

Ethylene glycol monobutyl ether 111-76-2 Present

CERCLA (Superfund) reportable quantity

Sodium nitrite: 100.0000

Ammonium hydroxide: 1000.0000

Sodium hydroxide: 1000.0000

Formaldehyde: 100.0000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes

Delayed Hazard - No

Fire Hazard - No

Pressure Hazard - Yes

Reactivity Hazard - No

Section 302 extremely hazardous substance

No

Section 311 hazardous chemical

Yes

Clean Water Act (CWA)

Hazardous substance

State regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances

Butane	106-97-8	Present
Ethylene glycol monobutyl ether	111-76-2	Present

U.S. - Massachusetts - Right To Know List

Butane	106-97-8	Present
Ethylene glycol monobutyl ether	111-76-2	Present
Propane	74-98-6	Present

U.S. - Minnesota - Hazardous Substance List

Butane	106-97-8	Present
Diethylene glycol monoethyl ether	111-90-0	Present
Ethylene glycol monobutyl ether	111-76-2	Skin
Propane	74-98-6	Simple asphyxiant

U.S. - New Jersey - Right to Know Hazardous Substance List

Butane	106-97-8	sn 0273
Ethylene glycol monobutyl ether	111-76-2	sn 0275
Propane	74-98-6	sn 1594

U.S. - Pennsylvania - RTK (Right to Know) List

Butane	106-97-8	Present
Ethylene glycol monobutyl ether	111-76-2	Present
Propane	74-98-6	Present

U.S. - Rhode Island - Hazardous Substance List

Butane	106-97-8	Toxic; Flammable
Ethylene glycol monobutyl ether	111-76-2	Toxic (skin)
Propane	74-98-6	Toxic; Flammable

Inventory name

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

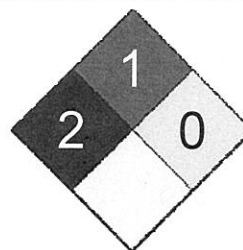
A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Disclaimer

Health	/ 2
Flammability	2
Physical Hazard	0
Personal Protection	X



Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

Issue date

20-Jun-2013

Effective date

15-Jun-2013

Expiry date

15-Jun-2016

Prepared by

Nu-Calgon Technical Service (314) 469-7000

Other information

For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.

This MSDS conforms to the ANSI Z400.1/Z129.1-2010 Standard.



MATERIAL SAFETY DATA SHEET

X

1. Product and Company Identification

Product Name NU-BRITE (4291)
CAS # Mixture
Product use Coil Cleaner / Degreaser
Manufacturer Nu-Calgon
2008 Altom Court
St. Louis, MO 63146 US
Phone: 314-469-7000 / 800-554-5499
Emergency Phone: 1-800-424-9300 (CHEMTREC)

2. Hazards Identification

Emergency overview DANGER
CAUSES EYE BURNS. CAUSES SKIN BURNS.

Potential short term health effects

Routes of exposure Eye, Skin contact, Inhalation, Ingestion.

Eyes Causes chemical burns. May cause blindness.

Skin Causes chemical burns. Harmful contact may not cause immediate pain.

Inhalation May cause respiratory tract irritation or chemical burns.

Ingestion Harmful if swallowed. Causes chemical burns to mouth, throat and stomach.

Target organs Eyes. Respiratory system. Skin.

Chronic effects Prolonged or repeated exposure to dilutions can cause drying, defatting and dermatitis.

Signs and symptoms The product causes burns of eyes, skin and mucous membranes.

OSHA Regulatory Status This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Potential environmental effects Components of this product have been identified as having potential environmental concerns.

3. Composition / Information on Ingredients

Ingredient(s)	CAS #	Percent
Sodium hydroxide	1310-73-2	10 - 30
Alkyl polyglycoside	110615-47-9	1 - 5

4. First Aid Measures

First aid procedures

Eye contact Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 15 minutes. Obtain medical attention immediately.

Skin contact Immediately flush with cool water for 15 minutes while removing contaminated clothing and shoes. Discard or wash well before reuse. Obtain medical advice immediately.

Inhalation If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.

Ingestion Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.

General advice If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved; and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Use of an impervious apron is recommended. Keep out of reach of children.

5. Fire Fighting Measures

Flammable properties Not flammable by WHMIS/OSHA criteria.

Extinguishing media

Suitable extinguishing media Dry chemical. Water spray. Carbon dioxide. Foam.

Unsuitable extinguishing media	Not available
Protection of firefighters	
Specific hazards arising from the chemical	Not available
Protective equipment for firefighters	Firefighters should wear full protective clothing including self contained breathing apparatus.
Hazardous combustion products	May include and are not limited to: Oxides of carbon.
Explosion data	
Sensitivity to mechanical impact	No.
Sensitivity to static discharge	No.

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
Environmental precautions	Do not discharge into lakes, streams, ponds or public waters.
Methods for containment	Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.
Methods for cleaning up	Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills to original containers for re-use.

7. Handling and Storage

Handling	Do not get in eyes, on skin or on clothing. Use good industrial hygiene practices in handling this material. Keep container tightly closed. Use only with adequate ventilation. Wash thoroughly after handling. Avoid breathing vapors or mists of this product.
Storage	Keep out of the reach of children. Store in a closed container away from incompatible materials.

8. Exposure Controls / Personal Protection

Exposure limits	
Ingredient(s)	Exposure Limits
Alkyl polyglycoside	ACGIH-TLV Not established OSHA-PEL Not established
Sodium hydroxide	ACGIH-TLV Ceiling: 2 mg/m3 OSHA-PEL TWA: 2 mg/m3
Engineering controls	General ventilation normally adequate.
Personal protective equipment	
Eye / face protection	Wear chemical goggles.
Hand protection	Rubber gloves. Confirm with a reputable supplier first.
Skin and body protection	As required by employer code. Rubber apron recommended.
Respiratory protection	Avoid breathing mists or vapors. Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.
General hygiene considerations	Use good industrial hygiene practices in handling this material. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Appearance	Liquid.
Color	Blue
Form	Liquid

Odor	Characteristic, Mild
Odor threshold	Not available
Physical state	Liquid
pH	14 (Concentrate)
Melting point	Not available
Freezing point	32.00 °F (0 °C)
Boiling point	212.00 °F (100 °C)
Pour point	Not available
Evaporation rate	Not available
Flash point	None to boiling
Auto-ignition temperature	Not available
Flammability limits in air, lower, % by volume	Not available
Flammability limits in air, upper, % by volume	Not available
Vapor pressure	Not available
Vapor density	Not available
Specific gravity	1.242 ± 0.005
Octanol/water coefficient	Not available
Solubility (H ₂ O)	Complete
VOC (Weight %)	Not available
Viscosity	Not available
Percent volatile	76

10. Stability and Reactivity

Reactivity	Reacts violently with acids. This product may react with oxidizing agents.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Hazardous vapours may be produced when mixed with chlorinated detergents or sanitizers. Do not mix with other chemicals.
Incompatible materials	Acids. Oxidizing agents.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon.

11. Toxicological Information

Component analysis - LC50

Ingredient(s)	LC50
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Alkyl polyglycoside	Not available
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Sodium hydroxide	Not available
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Component analysis - Oral LD50

Ingredient(s)	LD50
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Alkyl polyglycoside	5000 mg/kg rat
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Sodium hydroxide	Not available
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Effects of acute exposure

Eye	Causes chemical burns. May cause blindness.
Skin	Causes chemical burns. Harmful contact may not cause immediate pain.
Inhalation	May cause respiratory tract irritation or chemical burns.
Ingestion	Harmful if swallowed. Causes chemical burns to mouth, throat and stomach.
Sensitization	Non-hazardous by WHMIS/OSHA criteria.
Chronic effects	Non-hazardous by WHMIS/OSHA criteria.
Carcinogenicity	Non-hazardous by WHMIS/OSHA criteria.
Mutagenicity	Non-hazardous by WHMIS/OSHA criteria.

Reproductive effects	Non-hazardous by WHMIS/OSHA criteria.
Teratogenicity	Non-hazardous by WHMIS/OSHA criteria.
Name of Toxicologically Synergistic Products	Not available

12. Ecological Information

Ecotoxicity Components of this product have been identified as having potential environmental concerns.

Ecotoxicity - Freshwater Fish - Acute Toxicity Data

Sodium hydroxide 1310-73-2 96 Hr LC50 Oncorhynchus mykiss: 45.4 mg/L [static]

Persistence / degradability	Not available
Bioaccumulation / accumulation	Not available
Mobility in environmental media	Not available
Environmental effects	Not available
Aquatic toxicity	Not available
Partition coefficient	Not available
Chemical fate information	Not available
Other adverse effects	Not available

13. Disposal Considerations

Disposal instructions	Dispose in accordance with all applicable regulations.
Waste from residues / unused products	Not available
Contaminated packaging	Not available

14. Transport Information

U.S. Department of Transportation (DOT)

Basic shipping requirements:

Proper shipping name	Corrosive liquid, basic, inorganic, n.o.s. (SODIUM HYDROXIDE RQ = 5000 lbs)
Hazard class	8
UN number	UN3266
Packing group	II
Additional information:	
Special provisions	B2, IB2, T11, TP2, TP27
Packaging exceptions	<0.3 Gallon - Limited Quantity
ERG number	154



Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

Proper shipping name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (SODIUM HYDROXIDE)
Hazard class	8
UN number	UN3266
Packing group	II
Additional information:	
Special provisions	16
Packaging exceptions	<1L - Limited Quantity



15. Regulatory Information

Canadian federal regulations

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Canada - WHMIS - Ingredient Disclosure List

Sodium hydroxide 1310-73-2 1 %

WHMIS status

Controlled

WHMIS classification

Class E - Corrosive Material

WHMIS labeling



Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

US Federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

Sodium hydroxide 1310-73-2 1000 Lb final RQ; 454 kg final RQ

U.S. - CWA (Clean Water Act) - Hazardous Substances

Sodium hydroxide 1310-73-2 Present

CERCLA (Superfund) reportable quantity

Sodium hydroxide: 1000.0000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance
No

Section 311 hazardous chemical Yes

Clean Air Act (CAA) Not available

Clean Water Act (CWA) Hazardous substance

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances

Sodium hydroxide 1310-73-2 Present

U.S. - Louisiana - Reportable Quantity List for Pollutants

Sodium hydroxide 1310-73-2 1000 Lb final RQ; 454 kg final RQ

U.S. - Massachusetts - Right To Know List

Sodium hydroxide 1310-73-2 Present

U.S. - Minnesota - Hazardous Substance List

Sodium hydroxide 1310-73-2 Present

U.S. - New Jersey - Right to Know Hazardous Substance List

Sodium hydroxide 1310-73-2 sn 1706

U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances

Sodium hydroxide 1310-73-2 1000 Lb RQ (air); 100 lb RQ (land/water)

U.S. - Pennsylvania - RTK (Right to Know) List

Sodium hydroxide 1310-73-2 Environmental hazard

U.S. - Rhode Island - Hazardous Substance List

Sodium hydroxide 1310-73-2 Toxic; Flammable

Inventory name

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Disclaimer

Issue date

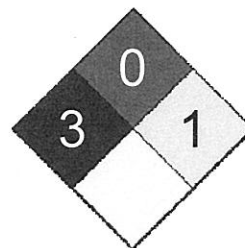
Effective date

Expiry date

Prepared by

Other information

Health	/ 3
Flammability	0
Physical Hazard	1
Personal Protection	X



Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

02-Jun-2011

15-Aug-2011

15-Aug-2014

Nu-Calgon Technical Service (314) 469-7000

For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.



MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product name Pan-Spray (Black) 4296-51
CAS # Mixture
Product Use Coating
Manufacturer Nu-Calgon
2008 Altom Court
St. Louis, MO 63146 US
Phone: 314-469-7000 / 800-554-5499
Emergency Phone: 1-800-424-9300 (CHEMTREC)

2. Hazards Identification

Emergency overview DANGER
Extremely flammable. Contents under pressure. Containers may explode when heated.
May cause chronic toxic effects.
MAY CAUSE EYE AND SKIN IRRITATION.

Potential short term health effects

Routes of exposure Eye, Skin contact, Inhalation, Ingestion.

Eyes May cause irritation.

Skin May cause irritation.

Inhalation Excessive intentional inhalation may cause respiratory tract irritation and central nervous system effects (headache, dizziness).

Ingestion May cause stomach distress, nausea or vomiting.

Target organs Eyes. Kidney. Liver. Respiratory system. Skin.

Chronic effects Significant lung effects have been observed in animals following exposure to airborne concentrations of Carbon Black of less than 100 mg/m³.
Prolonged or repeated exposure can cause drying, defatting and dermatitis.

Signs and symptoms Symptoms may include redness, oedema, drying, defatting and cracking of the skin.
Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Potential environmental effects Components of this product have been identified as having potential environmental concerns.

3. Composition/Information on Ingredients

Components	CAS #	Percent
Heptane	142-82-5	10 - 30
Methane, oxybis-	115-10-6	10 - 30
Toluene	108-88-3	10 - 30
Acetone	67-64-1	7 - 13
Propane	74-98-6	7 - 13
Distillates, petroleum, steam-cracked, polymers with light steam-cracked petroleum naphtha	68410-16-2	3 - 7
Isobutane	75-28-5	3 - 7
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with montmorillonite	68911-87-5	1 - 5
2-Propanol, 1-methoxy-, acetate	108-65-6	0.5 - 1.5
Carbon black	1333-86-4	0.1 - 1
Methyl isobutyl ketone	108-10-1	0.1 - 1

4. First Aid Measures

First aid procedures

Eye contact	Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 15 minutes. Obtain medical attention immediately.
Skin contact	Flush with cool water. Wash with soap and water. Obtain medical attention if irritation persists.
Inhalation	If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention. If breathing has stopped, trained personnel should administer CPR immediately.
Ingestion	Do not induce vomiting. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention.

Notes to physician

Symptoms may be delayed.

General advice

Do not puncture or incinerate container. Keep away from sources of ignition. No smoking. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

5. Fire Fighting Measures

Flammable properties	Flammable by WHMIS criteria. Containers may explode when heated.
Extinguishing media	
Suitable extinguishing media	Carbon dioxide. Dry chemical. Foam.
Unsuitable extinguishing media	Water.
Protection of firefighters	
Specific hazards arising from the chemical	Contents under pressure. Pressurised container may explode when exposed to heat or flame. Cool containers with flooding quantities of water until well after fire is out. Firefighters should wear a self-contained breathing apparatus.
Protective equipment for firefighters	Firefighters should wear full protective clothing including self contained breathing apparatus.
Hazardous combustion products	May include and are not limited to: Oxides of carbon.
Explosion data	
Sensitivity to mechanical impact	Not available.
Sensitivity to static discharge	Not available.

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.
Methods for containment	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.
Methods for cleaning up	Before attempting clean up, refer to hazard data given above. Remove sources of ignition. Although the chance of a significant spill or leak is unlikely in aerosol containers, in the event of such an occurrence, absorb spilled material with a non-flammable absorbent such as sand or vermiculite.

7. Handling and Storage

Handling	Use good industrial hygiene practices in handling this material. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.
Storage	Keep out of reach of children. Do not store at temperatures above 49°C (120.2°F). Keep away from heat, open flames or other sources of ignition.

8. Exposure Controls/Personal Protection

Occupational exposure limits

ACGIH Biological Exposure Indices

Components	Type	Value
Acetone (CAS 67-64-1)	BEI	50 mg/l
Methyl isobutyl ketone (CAS 108-10-1)	BEI	1 mg/l
Toluene (CAS 108-88-3)	BEI	0.3 mg/g 0.03 mg/l 0.02 mg/l

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	750 ppm	
	TWA	500 ppm	
Carbon black (CAS 1333-86-4)	TWA	3 mg/m3	Inhalable fraction.
Heptane (CAS 142-82-5)	STEL	500 ppm	
	TWA	400 ppm	
Isobutane (CAS 75-28-5)	STEL	1000 ppm	
Methyl isobutyl ketone (CAS 108-10-1)	STEL	75 ppm	
	TWA	20 ppm	
Toluene (CAS 108-88-3)	TWA	20 ppm	

Exposure limits

Chemicals listed in section 3 that are not listed here do not have established limit values for ACGIH.

Engineering controls

General ventilation normally adequate.

Personal protective equipment

Eye/Face protection

Wear safety glasses with side shields.

Hand protection

Rubber gloves. Confirm with a reputable supplier first.

Skin and body protection

As required by employer code.

Respiratory protection

Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practices.

When using do not eat or drink.

Washing with soap and water after use is recommended as good hygienic practice to prevent possible eye irritation from hand contact.

9. Physical and Chemical Properties

Appearance	Aerosol
Colour	Black
Form	Aerosol.
Odour	Solvent
Odour threshold	Not available.
Physical state	Gas.
pH	Not available.
Freezing point	Not available.
Boiling point	Not available.
Pour point	Not available.
Evaporation rate	> 1 (BuAc=1)
Flash point	Not available.
Auto-ignition temperature	246 - 480 °C (474.8 - 896 °F)
Flammability Limits in Air, Upper, % by Volume	Not available.

Flammability Limits in Air, Lower, % by Volume	> 1
Heat of combustion	Not available.
Vapour pressure	55 - 65 psig @ 20°C
Vapour density	>= 1
Specific gravity	0.73 - 0.77
Partition coefficient (n-octanol/water)	Not available.
Solubility (Water)	Negligible
Relative density	Not available.
Viscosity	Not available.
VOC	Not available.
Percent volatile	Not available.

10. Stability and Reactivity

Reactivity	This product may react with strong oxidising agents.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Aerosol containers are unstable at temperatures above 49°C (120.2°F). Do not mix with other chemicals.
Incompatible materials	Oxidizers.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon.

11. Toxicological Information

Toxicological data

Components	Species	Test results
2-Propanol, 1-methoxy-, acetate (CAS 108-65-6)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg
<i>Oral</i>		
LD50	Rat	8532 mg/kg
LC50		
Not available.		
Acetone (CAS 67-64-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	15800 mg/kg
		20 ml/kg
<i>Inhalation</i>		
LC50	Mouse	44000 mg/m3/4H
	Rat	76 mg/l, 4 Hours
		50.1 mg/l, 8 Hours
		39 mg/l/4h
<i>Oral</i>		
LD50	Human	2857 mg/kg
	Mouse	3000 mg/kg
	Rabbit	5340 mg/kg
	Rat	5800 mg/kg

Components	Species	Test results
Carbon black (CAS 1333-86-4)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 3000 mg/kg
LC50		
Not available.		
Distillates, petroleum, steam-cracked, polymers with light steam-cracked petroleum naphtha (CAS 68410-16-2)		
LC50		
Not available.		
LD50		
Not available.		
Heptane (CAS 142-82-5)		
Acute		
<i>Inhalation</i>		
LC50	Rat	103 mg/l, 4 Hours
LD50	Mouse	75 mg/l, 2 Hours
<i>Oral</i>		
LD50	Rat	15000 mg/kg
Isobutane (CAS 75-28-5)		
Acute		
<i>Inhalation</i>		
LC50	Rat	658 mg/l/4h
LD50		
Not available.		
Methane, oxybis- (CAS 115-10-6)		
Acute		
<i>Inhalation</i>		
LC50	Mouse	494.4 mg/l, 15 Minutes
		385.9 mg/l, 30 Minutes
	Rat	308.5 mg/l, 4 Hours
LD50		
Not available.		
Methyl isobutyl ketone (CAS 108-10-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	16000 mg/kg
<i>Inhalation</i>		
LC50	Rat	8.2 mg/l/4h
<i>Oral</i>		
LD50	Mouse	1200 mg/kg
	Rat	2080 mg/kg
Propane (CAS 74-98-6)		
Acute		
<i>Inhalation</i>		
LC50	Rat	> 1442.8 mg/l, 15 Minutes
LD50		
Not available.		

Components	Species	Test results
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with montmorillonite (CAS 68911-87-5)		
LC50		
Not available.		
LD50		
Not available.		
Toluene (CAS 108-88-3)		
Acute		
Dermal		
LD50	Rabbit	12125 mg/kg
		8390 mg/kg
		14.1 ml/kg
Inhalation		
LC50	Mouse	7100 mg/l, 4 Hours
		5320 mg/l, 8 Hours
		400 mg/l, 24 Hours
	Rat	26700 mg/l, 1 Hours
		12200 mg/l, 2 Hours
		8000 mg/l, 4 Hours
		12.5 mg/l/4h
Oral		
LD50	Rat	636 mg/kg
Effects of acute exposure		
Eye contact	May cause irritation.	
Skin contact	May cause irritation.	
Inhalation	Excessive intentional inhalation may cause respiratory tract irritation and central nervous system effects (headache, dizziness).	
Ingestion	May cause stomach distress, nausea or vomiting.	
Sensitisation	Non-hazardous by WHMIS criteria.	
Chronic effects	Significant lung effects have been observed in animals following exposure to airborne concentrations of Carbon Black of less than 100 mg/m3.	
Carcinogenicity	See below.	
ACGIH Carcinogens		
Acetone (CAS 67-64-1)	A4 Not classifiable as a human carcinogen.	
Carbon black (CAS 1333-86-4)	A3 Confirmed animal carcinogen with unknown relevance to humans.	
Methyl isobutyl ketone (CAS 108-10-1)	A3 Confirmed animal carcinogen with unknown relevance to humans.	
Toluene (CAS 108-88-3)	A4 Not classifiable as a human carcinogen.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Carbon black (CAS 1333-86-4)	Volume 65, Volume 93 - 2B Possibly carcinogenic to humans.	
Methyl isobutyl ketone (CAS 108-10-1)	Volume 101 - 2B Possibly carcinogenic to humans.	
Toluene (CAS 108-88-3)	Volume 47, Volume 71 - 3 Not classifiable as to carcinogenicity to humans.	
Mutagenicity	Non-hazardous by WHMIS criteria.	
Reproductive effects	Non-hazardous by WHMIS criteria.	
Teratogenicity	Toluene (benzene, methyl-) has caused fetotoxicity (reduced fetal weight), behavioural effects (effects on learning and memory) and hearing loss (in males). These effects have been observed in the offspring of rats exposed by inhalation to 1200 or 1800 ppm toluene. These effects were observed in the absence of maternal toxicity.	

Name of Toxicologically Synergistic Products

Not available.

12. Ecological Information**Ecotoxicity** Components of this product have been identified as having potential environmental concerns.**Ecotoxicological data****Components****Species****Test results**

2-Propanol, 1-methoxy-, acetate (CAS 108-65-6)

Crustacea

EC50

Daphnia

500 mg/L, 48 Hours

Acetone (CAS 67-64-1)

Crustacea

EC50

Daphnia

13999 mg/L, 48 Hours

Aquatic

Crustacea

EC50

Water flea (*Daphnia magna*)

21.6 - 23.9 mg/l, 48 hours

Fish

LC50

Rainbow trout, donaldson trout
(*Oncorhynchus mykiss*)

4740 - 6330 mg/l, 96 hours

Heptane (CAS 142-82-5)

Aquatic

Fish

LC50

Mozambique tilapia (*Tilapia mossambica*)

375 mg/l, 96 hours

Methyl isobutyl ketone (CAS 108-10-1)

Crustacea

EC50

Daphnia

170 mg/L, 48 Hours

Aquatic

Fish

LC50

Fathead minnow (*Pimephales promelas*)

492 - 593 mg/l, 96 hours

Toluene (CAS 108-88-3)

Algae

IC50

Algae

433 mg/L, 72 Hours

Crustacea

EC50

Daphnia

7.645 mg/L, 48 Hours

Aquatic

Crustacea

EC50

Water flea (*Daphnia magna*)

5.46 - 9.83 mg/l, 48 hours

Fish

LC50

Coho salmon, silver salmon
(*Oncorhynchus kisutch*)

8.11 mg/l, 96 hours

Persistence and degradability Not available.**Bioaccumulation/accumulation** Not available.**Mobility in environmental media** Not available.**Environmental effects** Not available.**Aquatic toxicity** Not available.**Partition coefficient**

Acetone

-0.24

Heptane

4.66

Isobutane

2.76

Methane, oxybis-

0.1

Methyl isobutyl ketone

1.31

Propane

2.36

Toluene

2.73

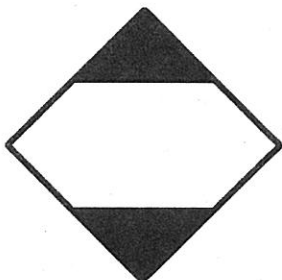
Chemical fate information Not available.**13. Disposal Considerations****Waste from residues / unused products** Not available**Contaminated packaging** Not available

14. Transport Information

Transportation of Dangerous Goods (TDG - Canada)

Limited quantity

TDG



15. Regulatory Information

Canadian federal regulations

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Canada DSL Challenge Substances: Listed substance

Carbon black (CAS 1333-86-4)	Listed.
Isobutane (CAS 75-28-5)	Listed.

Canada NPRI VOCs with Additional Reporting Requirements: Mass reporting threshold/Identification Number

2-Propanol, 1-methoxy-, acetate (CAS 108-65-6)	1 tonnes
Heptane (CAS 142-82-5)	1 tonnes
Isobutane (CAS 75-28-5)	1 tonnes
Methane, oxybis- (CAS 115-10-6)	1 tonnes
Methyl isobutyl ketone (CAS 108-10-1)	1 tonnes
Propane (CAS 74-98-6)	1 tonnes
Toluene (CAS 108-88-3)	1 tonnes

Canada WHMIS Ingredient Disclosure: Threshold limits

Acetone (CAS 67-64-1)	1 %
Carbon black (CAS 1333-86-4)	1 %
Heptane (CAS 142-82-5)	1 %
Methyl isobutyl ketone (CAS 108-10-1)	1 %
Toluene (CAS 108-88-3)	1 %

WHMIS status

Controlled

WHMIS Classification

Class A - Compressed Gas, Class B - Division 5; Flammable Aerosol, Class D - Division 2A, 2B

WHMIS labeling



Inventory status

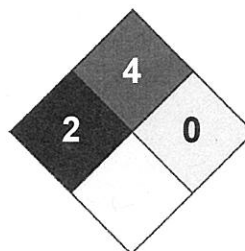
Country(s) or region	Inventory Name	On Inventory (Yes/No)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

HEALTH	*	2
FLAMMABILITY		4
PHYSICAL HAZARD		0
PERSONAL PROTECTION		X



Disclaimer

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

Issue date

16-January-2014

Effective date

15-February-2014

Expiry Date

15-February-2017

Prepared by

Dell Tech Laboratories Ltd. Phone: (519) 858-5021

Other information

For an updated MSDS, please contact the supplier/manufacture listed on the first page of the document.

This MSDS conforms to the ANSI Z400.1/Z129.1-2010 Standard.



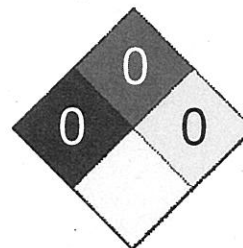
MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product Name Thermo Trap (4371)
CAS # Mixture
Product use Heat absorbing paste
Manufacturer Nu-Calgon
2008 Altom Court
St. Louis, MO 63146 US
Phone: 314-469-7000 / 800-554-5499
Emergency Phone: 1-800-424-9300 (CHEMTREC)

LEGEND HMIS/NFPA
Severe 4
Serious 3
Moderate 2
Slight 1
Minimal 0

Health	10
Flammability	0
Physical Hazard	0
Personal Protection	X



2. Hazards Identification

Emergency overview Contact may cause eye and skin irritation.

Potential short term health effects

Routes of exposure Eye, Skin contact, Inhalation, Ingestion.

Eyes May cause irritation.

Skin May cause irritation.

Inhalation May cause respiratory tract irritation.

Ingestion May cause stomach distress, nausea or vomiting.

Target organs Eyes. Skin.

Chronic effects Prolonged or repeated exposure can cause drying, defatting and dermatitis.

Signs and symptoms Symptoms may include redness, edema, drying, defatting and cracking of the skin. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

3. Composition / Information on Ingredients

Composition comments This product is considered non hazardous by WHMIS/OSHA criteria.

4. First Aid Measures

First aid procedures

Eye contact Flush with cool water. Remove contact lenses, if applicable, and continue flushing. Obtain medical attention if irritation persists.

Skin contact Flush with cool water. Wash with soap and water. Obtain medical attention if irritation persists.

Inhalation If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.

Ingestion Do not induce vomiting. Rinse mouth with water, then drink one or two glasses of water. Obtain medical attention. Never give anything by mouth if victim is unconscious, or is convulsing.

Notes to physician Symptoms may be delayed.

General advice If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

5. Fire Fighting Measures

Flammable properties	Not flammable by WHMIS/OSHA criteria.
Extinguishing media	
Suitable extinguishing media	Treat for surrounding material.
Unsuitable extinguishing media	Not available
Protection of firefighters	
Specific hazards arising from the chemical	Not available
Protective equipment for firefighters	Firefighters should wear full protective clothing including self contained breathing apparatus.
Hazardous combustion products	May include and are not limited to: Oxides of carbon.
Explosion data	
Sensitivity to mechanical impact	Not available
Sensitivity to static discharge	Not available

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.
Methods for containment	Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.
Methods for cleaning up	Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills in original containers for re-use.

7. Handling and Storage

Handling	Use good industrial hygiene practices in handling this material.
Storage	Keep out of reach of children. Store in a closed container away from incompatible materials.

8. Exposure Controls / Personal Protection

Engineering controls	General ventilation normally adequate.
Personal protective equipment	
Eye / face protection	Wear safety glasses with side shields.
Hand protection	Rubber gloves. Confirm with a reputable supplier first.
Skin and body protection	As required by employer code.
Respiratory protection	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

9. Physical & Chemical Properties

Appearance	paste
Color	grey to white
Form	paste
Odor	Odorless
Odor threshold	Not available
Physical state	Liquid
pH	Not available
Melting point	Not available
Freezing point	Not available
Boiling point	Not available

Flash point	Not available
Evaporation rate	Not available
Flammability limits in air, lower, % by volume	Not available
Flammability limits in air, upper, % by volume	Not available
Vapor pressure	15.5 m mHg
Vapor density	Not available
Specific gravity	1.02
Octanol/water coefficient	Not available
Solubility (H2O)	Not available
Auto-ignition temperature	Not available
VOC (Weight %)	Not available
Viscosity	Viscous
Percent volatile	Not available

10. Chemical Stability & Reactivity Information

Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Do not mix with other chemicals.
Incompatible materials	Acids. Oxidizers.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Effects of acute exposure	
Eye	May cause irritation.
Skin	May cause irritation.
Inhalation	May cause respiratory tract irritation.
Ingestion	May cause stomach distress, nausea or vomiting.
Sensitization	Non-hazardous by WHMIS/OSHA criteria.
Chronic effects	Non-hazardous by WHMIS/OSHA criteria.
Carcinogenicity	Non-hazardous by WHMIS/OSHA criteria.
Mutagenicity	Non-hazardous by WHMIS/OSHA criteria.
Reproductive effects	Non-hazardous by WHMIS/OSHA criteria.
Teratogenicity	Non-hazardous by WHMIS/OSHA criteria.

12. Ecological Information

Ecotoxicity	Not available
Environmental effects	Not available
Aquatic toxicity	Not available
Persistence / degradability	Not available
Bioaccumulation / accumulation	Not available
Partition coefficient	Not available
Mobility in environmental media	Not available
Chemical fate information	Not available

13. Disposal Considerations

Waste codes	Not available
Disposal instructions	Dispose in accordance with all applicable regulations.
Waste from residues / unused products	Not available

Contaminated packaging

Not available

14. Transport Information

U.S. Department of Transportation (DOT)

Not regulated as dangerous goods.

Transportation of Dangerous Goods (TDG - Canada)

Not regulated as dangerous goods.

15. Regulatory Information

Canadian federal regulations

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

US Federal regulations

This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical No

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical No

Clean Air Act (CAA) Not available

Clean Water Act (CWA) Not available

Safe Drinking Water Act (SDWA) Not available

Drug Enforcement Agency (DEA) Not available

Food and Drug Administration (FDA) Not available

WHMIS status Not Controlled

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

Inventory name

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

Disclaimer

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

Issue date 22-Jul-2011

Effective date 22-Jul-2011

Expiry date
Prepared by

22-Jul-2014
Nu-Calgon Technical Service (314) 469-7000

GenlabsMaterial Safety Data Sheet
OSHA's Hazard Communication Standard
U.S. Department of Labor

29 CFR 1910.1200

OMB No. 1218-0072

Identity # 01604 Name NEUTRA CLEAN

Section 1

Manufacturer's Name - Genlabs (Formerly General Chemical Corp.)
 Address - 5568 Schaefer Ave. Emergency Phone (Chemtrec) 1-(800)-424-9300
 City - Chino State - CA Phone - (909) 591-8451
 Contact Person - Solaiman Jonatan

Date Prepared- 6/4/2010

Section 2 - Ingredients/Identity Information

Components	CAS#	OSHA PEL	ACGIH TLV	Weight% (Optional)
Sodium Citrate F.C.C	6132-04-3	N/A	N/A	

VOC Content- 4.8 g/L Note: N/A

Section 3 - Physical/Chemical Characteristics

Boiling Point- >212 F	Specific Gravity- 1.000
Vapor Pressure - Not Tested	Melting Point - Not Tested
Vapor Density - Not Tested	Evaporation Rate - Not Tested
Solubility In Water- 100%	
Appearance and Odor- YELLOW COLOR LIQUID WITH CITRUS FRAGRANCE.	

Section 4 - Fire and Explosion Hazard Data

Flash Point- None	Flammable Limits - Not Tested
LEL- Not Tested	UEL- Not Tested
pH- 6.5 - 8.5	DOT# NONE
NFPA Hazard Rating - H F R S	HMIS Hazard Rating - H F R
(0- Least, 4- Extreme) 0 0 0 0	0 0 0
Extinguishing Media- CO2, DRY FOAM, WATER.	
Special Fire Fighting Procedures NONE	

Unusual Fire and Explosion Hazards- NONE

Section 5 - Reactivity Data

Stability - Stable
 Conditions to Avoid - None

Incompatible Materials to Avoid- Strong Oxidizers, Strong Acidic Materials.

Hazardous Decomposition or Byproducts- CO, CO2

Hazardous Polymerization- NONE

Conditions to Avoid- None

Section 6 - Health Hazard Data

Routes of Entry

Inhalation? - Possible

Skin? - Possible

Ingestion? - Possible

Health Hazards - Same as Signs and Symptoms of Exposures

Note - All Chemicals in this Product are Found on the TSCA Inventory List.

OSHA Carcinogenicity? - None; NTP? - None; IARC Monographs? - None.

01604

Signs and symptoms of over exposure:

Eyes - Burning Sensation

Skin- Prolong skin contact may cause skin driness.

Ingestion- Nausea, irritant, stomach ache, diarrhea.

Inhalation- Not Expected To Be A Problem

Medical Conditions Generally Aggravated by Exposure - Same as Signs and Symptoms of Over Exposure

Emergency and First Aid Procedures

Eyes - Flush With Water For 15 Minutes. If Irritation Persists, Call Physician.

Skin- Wash Off With Soap & Water

Ingestion- Drink Large Amounts of Water, Call Physician

Inhalation- Not Expected to be a Problem

Section 7 - Precautions For Safe Handling and Use.

Steps to be taken in case material is released or spilled - Soak up with inert, absorbent material. Scoop up and place in a proper waste disposal container.

Waste Disposal Method - Dispose of in accordance with state and local regulations.

Precautions To Be Taken In Handling and Storing - Store in a cool, dry place, out of direct sunlight. Do not freeze, less than or equal to 32 F, or heat above 110 F.

Other Precautions - Keep out of reach of children. Follow directions on the container for proper use of this product.

Section 8 - Control Measures

Respiratory Protection - Open all doors and windows. "If" there is an exposure, and it is above the TLV or PEL, a NIOSH approved respirator equipped for the exposure or suitable respiratory protection per 29 CFR 1910.134, is required.

Ventilation	Local Exhaust - If Available	Special - None
	Mechanical - If Available	Other - None

Protective Gloves- Plastic or Rubber, Chemical Resistant

Eye Protection- Glasses, Goggles

Other Protective Clothing or Equipment- NONE

Work Hygienic Practices - Use common sense and care around chemicals. Never mix chemicals. Consult your supervisor for other practices. All practices depend on your specific business. Directions for use are normally found on label which will dictate engineering and control measures.

Other Special Requirements NONE

Note: Genlabs believes the data set forth are accurate. Genlabs makes no warranty with respects thereto and disclaims all liability for reliance thereon. Such data are offered solely for consideration, investigation and verification. Also, the data set forth is for the concentrated finished product. All lab samples are for experimental purposes only and used at the customers discretion

Safety Data Sheet

According to OSHA HCS 2012 (29 CFR 1910.1200)



Section 1: Identification

Product Identifier:

No. 2 Diesel Fuel

Other means of identification:

#2DSL ULS (All Grades); #2DSL HS (All Grades); #2DSL LS (All Grades); CARB DSL (All Grades); DIST CARB-Diesel (All Grades); Distillate, Diesel (All Grades); Gas Oil (All Grades); Hydrowaxer Diesel (All Grades); Diesel Fuel (All Grades); EPA Diesel Fuel (All Grades); No. 2 Diesel (All Grades); No. 2 Diesel Fuel Oil (All Grades); No. 2 Distillate; No. 2 Diesel with Renewable Diesel (All Grades); Super Diesel Fuel (All Grades); Distillate Blend Stock; Fuels, Diesel; Virgin Diesel Fuel

SDS Number:

001847

MARPOL Annex I Category:

Gas Oils, Including Ship's Bunkers

Intended Use:

Fuel

Uses Advised Against:

All others

Emergency Health and Safety Number:

Chemtrec: 800-424-9300 (24 Hours)

Manufacturer:

Phillips 66 Company
P.O. Box 4428
Houston, Texas 77210

SDS Information:

Phone: 800-762-0942
Email: SDS@P66.com
URL: www.Phillips66.com

Customer Service:

800-527-5476 **Technical Information:** 800-527-5476

Section 2: Hazards Identification

Classified Hazards

H226 -- Flammable liquids -- Category 3
H315 -- Skin corrosion/irritation -- Category 2
H304 -- Aspiration Hazard -- Category 1
H332 -- Acute toxicity, Inhalation -- Category 4
H373 -- Specific target organ toxicity (repeated exposure) -- Category 2
H351 -- Carcinogenicity -- Category 2
H410 -- Hazardous to the aquatic environment, chronic toxicity -- Category 1

Other Hazards

Electrostatic charge may be generated during pumping and other operations

Label Elements



DANGER

Flammable liquid and vapor
Causes skin irritation
May be fatal if swallowed and enters airways
Harmful if inhaled
May cause damage to organs through prolonged or repeated exposure
Suspected of causing cancer
Very toxic to aquatic life with long lasting effects



Obtain special instructions before use; Do not handle until all safety precautions have been read and understood; Keep away from heat/sparks/open flames/hot surfaces. - No smoking; Keep away from any possible contact with water, because of violent reaction and possible flash fire; Ground/bond container and receiving equipment; Use explosion-proof electrical/ventilating/lighting equipment; Use only non-sparking tools; Take precautionary measures against static discharge; Do not breathe dust/fume/gas/mist/vapours/spray; Wash thoroughly after handling; Use only outdoors or in a well-ventilated area; Avoid release to the environment; Wear protective gloves / protective clothing / eye protection / face protection; Call a POISON CENTER or doctor/physician if you feel unwell; IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician; Do NOT induce vomiting; IF ON SKIN: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower; IF ON SKIN: Wash with plenty of soap and water; If skin irritation occurs; Get medical advice/attention; IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing; Take off contaminated clothing and wash before reuse; In case of fire: Use dry chemical, carbon dioxide, or foam for extinction; Store in a well-ventilated place. Keep cool; Dispose of contents/container to approved disposal facility

Section 3: Composition / Information on Ingredients

Chemical Name	CASRN	Concentration
Fuels, diesel, no. 2	68476-34-6	95-100
Naphthalene	91-20-3	<1

Total Sulfur: < 0.1 wt%

¹ All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Section 4: First Aid Measures

Eye Contact: If irritation or redness develops from exposure, flush eyes with clean water. If symptoms persist, seek medical attention.

Skin Contact: Remove contaminated shoes and clothing, and flush affected area(s) with large amounts of water. If skin surface is damaged, apply a clean dressing and seek medical attention. If skin surface is not damaged, cleanse affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. If irritation or redness develops, seek medical attention. Wash contaminated clothing before reuse. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician. (see Note to Physician)

Inhalation (Breathing): If respiratory symptoms or other symptoms of exposure develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. If symptoms persist, seek immediate medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion (Swallowing): Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. If victim is drowsy or unconscious and vomiting, place on the left side with the head down. If possible, do not leave victim unattended and observe closely for adequacy of breathing. Seek medical attention.

Most important symptoms and effects, both acute and delayed: While significant vapor concentrations are not likely, high concentrations can cause minor respiratory irritation, headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue. Ingestion can cause irritation of the digestive tract, nausea, diarrhea, and vomiting. Dry skin and possible irritation with repeated or prolonged exposure.

Notes to Physician: When using high-pressure equipment, injection of product under the skin can occur. In this case, the casualty should be sent immediately to the hospital. Do not wait for symptoms to develop. High-pressure hydrocarbon injection injuries may produce substantial necrosis of underlying tissue despite an innocuous appearing external wound. These injuries often require extensive emergency surgical debridement and all injuries should be evaluated by a specialist in order to assess the extent of injury. Early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

Section 5: Fire-Fighting Measures

NFPA 704 Hazard Class

Health: 1 Flammability: 2 Instability: 0



0 (Minimal)
1 (Slight)
2 (Moderate)
3 (Serious)
4 (Severe)

Extinguishing Media: Dry chemical, carbon dioxide, or foam is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters.

Specific hazards arising from the chemical

Unusual Fire & Explosion Hazards: Flammable This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe). Vapors may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. This product will float and can be reignited on surface water. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

Hazardous Combustion Products: Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of nitrogen and sulfur may also be formed.

Special protective actions for firefighters: For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely. Avoid spreading burning liquid with water used for cooling purposes.

See Section 9 for Flammable Properties Including Flash Point and Flammable (Explosive) Limits

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Flammable Spillages of liquid product will create a fire hazard and may form an explosive atmosphere. Keep all sources of ignition and hot metal surfaces away from spill/release if safe to do so. The use of explosion-proof electrical equipment is recommended. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Environmental Precautions: Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Use foam on spills to minimize vapors. Use water sparingly to minimize environmental contamination and reduce disposal requirements. If spill occurs on water notify appropriate authorities and advise shipping of any hazard. Spills into or upon navigable waters, the contiguous zone, or adjoining shorelines that cause a sheen or discoloration on the surface of the water, may require notification of the National Response Center (phone number 800-424-8802).

Methods and material for containment and cleaning up: Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended. Dike far ahead of spill for later recovery or disposal. Absorb spill with inert material such as sand or vermiculite, and place in suitable container for disposal. If spilled on water remove with appropriate methods (e.g. skimming, booms or absorbents). In case of soil contamination, remove contaminated soil for remediation or disposal, in accordance with local regulations.

Recommended measures are based on the most likely spillage scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken.

Section 7: Handling and Storage

Precautions for safe handling: Keep away from ignition sources such as heat/sparks/open flame – No smoking. Take precautionary measures against static discharge. Nonsparking tools should be used. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe vapors or mists. Use only outdoors or in well-ventilated area. Wear protective gloves/clothing and eye/face protection. Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8). Flammable May vaporize easily at ambient temperatures. The vapor is heavier than air and may create an explosive mixture of vapor and air. Beware of accumulation in confined spaces and low lying areas. Open container slowly to relieve any pressure. The use of explosion-proof electrical equipment is recommended and may be required (see appropriate fire codes). Refer to NFPA-70 and/or API RP 2003 for specific bonding/grounding requirements. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Do not wear contaminated clothing or shoes. Keep contaminated clothing away from sources of ignition such as sparks or open flames.

High pressure injection of hydrocarbon fuels, hydraulic oils or greases under the skin may have serious consequences even though no symptoms or injury may be apparent. This can happen accidentally when using high pressure equipment such as high pressure grease guns, fuel injection apparatus or from pinhole leaks in tubing of high pressure hydraulic oil equipment.

For use as a motor fuel only. Do not use as a solvent due to its flammable and potentially toxic properties. Siphoning by mouth can result in lung aspiration which can be harmful or fatal.

The use of hydrocarbon fuel in an area without adequate ventilation may result in hazardous levels of incomplete combustion products (e.g. carbon monoxide, oxides of sulfur and nitrogen, benzene and other hydrocarbons) and/or dangerously low oxygen levels.

Diesel engine exhaust contains hazardous combustion products and has been identified as a cancer hazard. Exposure should be minimized to reduce potential risk.

Static Accumulation Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding of tanks, transfer piping, and storage tank level floats are necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. Special care should be given to ensure that special slow load procedures for "switch loading" are followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil or diesel) is loaded into tanks previously containing low flash point products (such as gasoline or naphtha). For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.

Conditions for safe storage: Keep container(s) tightly closed and properly labeled. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Store only in approved containers. Post area "No Smoking or Open Flame." Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1, and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

Section 8: Exposure Controls/Personal Protection

Chemical Name	ACGIH	OSHA	Other
Fuels, diesel, no. 2	TWA: 100 mg/m ³ Skin	----	TWA: 100 mg/m ³ (Phillips 66 Guidelines)

Naphthalene	STEL: 15 ppm TWA: 10 ppm 10 ppm TWA; skin; A3 - confirmed animal carcinogen with unknown relevance to humans; TLV basis: upper respiratory tract irritation Skin	TWA: 10 ppm : 50 mg/m ³	—
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Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

Eye/Face Protection: The use of eye protection that meets or exceeds ANSI Z.87.1 is recommended to protect against potential eye contact, irritation, or injury. Depending on conditions of use, a face shield may be necessary.

Skin/Hand Protection: The use of gloves impervious to the specific material handled is advised to prevent skin contact. Users should check with manufacturers to confirm the breakthrough performance of their products. Depending on exposure and use conditions, additional protection may be necessary to prevent skin contact including use of items such as chemical resistant boots, aprons, arm covers, hoods, coveralls, or encapsulated suits. Suggested protective materials: Nitrile

Respiratory Protection: Where there is potential for airborne exposure above the exposure limit a NIOSH certified air purifying respirator equipped with organic vapor cartridges/canisters may be used.

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed whenever workplace conditions warrant a respirator's use. Air purifying respirators provide limited protection and cannot be used in atmospheres that exceed the maximum use concentration (as directed by regulation or the manufacturer's instructions), in oxygen deficient (less than 19.5 percent oxygen) situations, or under conditions that are immediately dangerous to life and health (IDLH).

Other Protective Equipment: Eye wash and quick-drench shower facilities should be available in the work area. Thoroughly clean shoes and wash contaminated clothing before reuse.

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

Section 9: Physical and Chemical Properties

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm). Data represent typical values and are not intended to be specifications.

Appearance: Straw colored to dyed red

Physical Form: Liquid

Odor: Diesel fuel

Odor Threshold: No data

pH: Not applicable

Vapor Density (air=1): > 3

Upper Explosive Limits (vol % in air): 10.0

Lower Explosive Limits (vol % in air): 0.3

Evaporation Rate (nBuAc=1): <1

Particle Size: N/A

Percent Volatile: Negligible @ ambient conditions

Flammability (solid, gas): N/A

Flash Point: 125 - 180 °F / 52 - 82 °C

Test Method: Pensky-Martens Closed Cup (PMCC), ASTM D93, EPA 1010

Initial Boiling Point/Range: 300 - 690 °F / 149 - 366 °C

Vapor Pressure: 0.40 mm Hg

Partition Coefficient (n-octanol/water) (Kow): No data

Melting/Freezing Point: No data

Auto-Ignition Temperature: 500 °F / 260 °C

Decomposition Temperature: No data

Specific Gravity (water=1): 0.81-0.88 @ 60°F (15.6°C)

Bulk Density: 7.08 lbs/gal

Viscosity: N/D

Solubility in Water: Negligible

Section 10: Stability and Reactivity

Reactivity: Not chemically reactive.

Chemical stability: Stable under normal ambient and anticipated conditions of use.

Possibility of hazardous reactions: Hazardous reactions not anticipated.

Conditions to avoid: Avoid high temperatures and all sources of ignition. Prevent vapor accumulation.

Incompatible materials: Avoid contact with strong oxidizing agents and strong reducing agents.

Hazardous decomposition products: Not anticipated under normal conditions of use.

Section 11: Toxicological Information

Information on Toxicological Effects of Substance/Mixture

Route of Entry	Hazard	Additional Information	LC50/ LD50 Data
Inhalation	Harmful if inhaled		4.65 mg/L (mist)
Dermal	Unlikely to be harmful		> 4.1 g/kg
Oral	Unlikely to be harmful		> 5 g/kg

Aspiration Hazard: May be fatal if swallowed and enters airways.

Skin Corrosion/Irritation: Causes skin irritation. Repeated exposure may cause skin dryness or cracking.

Serious Eye Damage/Irritation: Causes mild eye irritation.

Skin Sensitization: Not expected to be a skin sensitizer.

Respiratory Sensitization: Not expected to be a respiratory sensitizer.

Specific Target Organ Toxicity (Single Exposure): Not expected to cause organ effects from single exposure.

Specific Target Organ Toxicity (Repeated Exposure): May cause damage to organs through prolonged or repeated exposure. Repeated dermal application of petroleum gas oils for 90 days resulted in decreased liver, thymus, and spleen weights, and altered bone marrow function. Microscopic alterations included liver hypertrophy and necrosis, decreased hematopoiesis and lymphocyte depletion.

Carcinogenicity: Suspected of causing cancer. Petroleum middle distillates have been shown to cause skin tumors in mice following repeated and prolonged skin contact. Follow-up studies have shown that these tumors are produced through a non-genotoxic mechanism associated with frequent cell damage and repair, and that they are not likely to cause tumors in the absence of prolonged skin irritation.

Germ Cell Mutagenicity: Not expected to cause heritable genetic effects.

Reproductive Toxicity: Not expected to cause reproductive toxicity.

Other Comments: Diesel engine exhaust has been classified by the International Agency for Research on Cancer (IARC) and National Toxicology Program (NTP) as a carcinogen.

Information on Toxicological Effects of Components

Naphthalene

Carcinogenicity: Naphthalene has been evaluated in two year inhalation studies in both rats and mice. The US National Toxicology Program (NTP) concluded that there is clear evidence of carcinogenicity in male and female rats based on increased incidences of respiratory epithelial adenomas and olfactory epithelial neuroblastomas of the nose. NTP found some evidence of carcinogenicity in female mice (alveolar adenomas) and no evidence of carcinogenicity in male mice. Naphthalene has been identified as a carcinogen by IARC and NTP.

Section 12: Ecological Information



GHS Classification:
H410 -- Hazardous to the aquatic environment, chronic toxicity -- Category 1
Very toxic to aquatic life with long lasting effects.

Toxicity: Experimental studies of gas oils show that acute aquatic toxicity values are typically in the range 2-20 mg/L. These values are consistent with the predicted aquatic toxicity of these substances based on their hydrocarbon compositions. They should be regarded as toxic to aquatic organisms, with the potential to cause long term adverse effects in the aquatic environment.

Persistence and Degradability: Gas oils are complex combinations of individual hydrocarbon species. Based on the known or expected properties of individual constituents, category members are not predicted to be readily biodegradable. Some hydrocarbon constituents of gas oils are predicted to meet the criteria for persistence; on the other hand, some components can be easily degraded by microorganisms under aerobic conditions.

Persistence per IOPC Fund definition: Non-Persistent

Bioaccumulative Potential: Gas oil components have measured or calculated Log Kow values in the range of 3.9 to 6 which indicates a high potential to bioaccumulate. Lower molecular weight compounds are readily metabolized and the actual bioaccumulation potential of higher molecular weight compounds is limited by the low water solubility and large molecular size.

Mobility in Soil: Releases to water will result in a hydrocarbon film floating and spreading on the surface. For the lighter components, volatilization is an important loss process and reduces the hazard to aquatic organisms. In air, the hydrocarbon vapors react readily with hydroxyl radicals with half-lives of less than one day. Photooxidation on the water surface is also a significant loss process particularly for polycyclic aromatic compounds. In water, the majority of components will be adsorbed on sediment. Adsorption is the most predominant physical process on release to soil. Adsorbed hydrocarbons will slowly degrade in both water and soil.

Other adverse effects: None anticipated.

Section 13: Disposal Considerations

The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations.

This material, if discarded as produced, would not be a federally regulated RCRA "listed" hazardous waste. However, it would likely be identified as a federally regulated RCRA hazardous waste for the following characteristic(s) shown below. See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the MSDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste.

Container contents should be completely used and containers should be emptied prior to discard. Container residues and rinseates could be considered to be hazardous wastes.

EPA Waste Number(s)

- D001 - Ignitability characteristic

Section 14: Transport Information

U.S. Department of Transportation (DOT)

Shipping Description:

Aquatic toxicity studies indicate this material may be classified as a Marine Pollutant under IMDG Code. It is not currently regulated as a marine pollutant by the USDOT. If there is not a Shipping Description or other DOT marking, labeling, placarding and packaging references shown in this section, it is not regulated as a hazardous material by the USDOT.

Non-Bulk Package Marking:
Non-Bulk Package Labeling:
Bulk Package/Placard Marking:
Packaging - References:

UN1202, Diesel fuel, Combustible liquid III
Not Regulated [49 CFR 173.150(f)(2)]
Not Regulated [49 CFR 173.150(f)(2)]
Combustible / 1993
None; None; 49 CFR 173.241
(Exceptions; Non-bulk; Bulk)

Emergency Response Guide:
Note:

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**NA1993 may be used instead of UN1202 for domestic land transportation.
Bulk Package/Placard Marking would also be changed to: 1202
Container(s) greater than 5 liters (liquids) or 5 kilograms (solids), shipped by water mode and ALL bulk shipments may require the shipping description to contain the "Marine Pollutant" notation [49 CFR 172.203(l)] and the container(s) to display the [Marine Pollutant Mark] [49 CFR 172.322].

International Maritime Dangerous Goods (IMDG)

Shipping Description:

If flashpoint is >60° C closed-cup and the material meets the IMDG definition of a Marine Pollutant, an alternate shipping name such as "Environmentally hazardous substance, n.o.s." with hazard class 9 and PG III must be used.

Non-Bulk Package Marking:
Labels:
Placards/Marking (Bulk):
Packaging - Non-Bulk:
EMS:
Note:

UN1202, Diesel fuel, 3, III, (FP° C cc), [where FP is the material's flash point in degrees Celsius closed cup]
Diesel fuel, UN1202
Flammable liquid
Flammable / 1202
P001, LP01
F-E, S-E
Proper Shipping name can be: Gas Oil or Diesel fuel or Heating Oil, light
If transported in bulk by marine vessel in International waters, product is being carried under the scope of MARPOL Annex I.
If container(s) is greater than 5 liters (liquids) or 5 kilograms (solids), shipment may require the shipping description to contain the "Marine Pollutant" description [IMDG 5.4.1.4.3.5] and the container(s) to display the Marine Pollutant mark [IMDG 5.2.1.6].

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

International Civil Aviation Org. / International Air Transport Assoc. (ICAO/IATA)

UN/ID #:

Not regulated if flashpoint is >60° C closed-cup

Proper Shipping Name:
Hazard Class/Division:
Packing Group:
Non-Bulk Package Marking:
Labels:
ERG Code:
Note:

UN1202
Diesel fuel
3
III
Diesel fuel, UN1202
Flammable liquid
3L

If container(s) is greater than 5 liters (liquids) or 5 kilograms (solids), shipment may require the container to display the "Environmentally hazardous substance" mark [IATA 7.1.6.3].

	LTD. QTY	Passenger Aircraft	Cargo Aircraft Only
Packaging Instruction #:	Y344	355	366
Max. Net Qty. Per Package:	10 L	60 L	220 L

Section 15: Regulatory Information

CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds):

This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

CERCLA/SARA - Section 311/312 (Title III Hazard Categories)

Acute Health Hazard: yes
Chronic Health Hazard: Yes
Fire Hazard: Yes
Pressure Hazard: No
Reactive Hazard: No

CERCLA/SARA - Section 313 and 40 CFR 372:

This material contains the following chemicals subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR 372:

Chemical Name	Concentration	Comments
Naphthalene	<1	0.1%

EPA (CERCLA) Reportable Quantity (In pounds):

EPA's Petroleum Exclusion applies to this material - (CERCLA 101(14)).

California Proposition 65:

Warning: This material may contain detectable quantities of the following chemicals, known to the State of California to cause cancer, birth defects or other reproductive harm, and which may be subject to the warning requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):

Chemical Name	Type of Toxicity
Naphthalene	Cancer

International Hazard Classification

Canada:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the Regulations.

WHMIS Hazard Class:

B3 - Combustible liquid
D1B - Toxic materials
D2A - Very toxic materials
D2B - Toxic materials

National Chemical Inventories

All components are either listed on the US TSCA inventory, or are not regulated under TSCA
All components are either on the DSL, or are exempt from DSL listing requirements.

U.S. Export Control Classification Number: EAR99

Section 16: Other Information

Date of Issue	Previous Issue Date	SDS Number	Status
18-Jul-2013	06-Mar-2013	001847	FINAL

Revised Sections or Basis for Revision:

Physical Properties (Section 9); Shipping Information (Section 14)

Guide to Abbreviations:

ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; GHS = Globally Harmonized System; IARC = International Agency for Research on Cancer; INSHT = National Institute for Health and Safety at Work; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada).

Disclaimer of Expressed and Implied Warranties:

The information presented in this Safety Data Sheet is based on data believed to be accurate as of the date this Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

Material Safety Data Sheet

Airgas®

Nitrogen

Section 1. Chemical product and company identification

Product name : Nitrogen

Supplier : AIRGAS INC., on behalf of its subsidiaries
259 North Radnor-Chester Road
Suite 100
Radnor, PA 19087-5283
1-610-687-5253

Product use : Synthetic/Analytical chemistry. Liquid – cryogenic coolant.

Synonym : nitrogen (dot); nitrogen gas; Nitrogen NF, LIN, Cryogenic Liquid Nitrogen, Liquid Nitrogen

MSDS # : 001040

Date of Preparation/Revision : 1/14/2011.

In case of emergency : 1-866-734-3438

Section 2. Hazards identification

Physical state : Gas. [NORMALLY A COLORLESS GAS: MAY BE A CLEAR COLORLESS LIQUID AT LOW TEMPERATURES. SOLD AS A COMPRESSED GAS OR LIQUID IN STEEL CYLINDERS.]

Emergency overview : WARNING!
GAS:
CONTENTS UNDER PRESURE.
Do not puncture or incinerate container.
Can cause rapid suffocation.
May cause severe frostbite.
LIQUID:
Extremely cold liquid and gas under pressure.
Can cause rapid suffocation.
May cause severe frostbite.
Do not puncture or incinerate container.
Contact with rapidly expanding gases or liquids can cause frostbite.

Routes of entry : Inhalation

Potential acute health effects

Eyes : Contact with rapidly expanding gas may cause burns or frostbite. Contact with cryogenic liquid can cause frostbite and cryogenic burns.

Skin : Contact with rapidly expanding gas may cause burns or frostbite. Contact with cryogenic liquid can cause frostbite and cryogenic burns.

Inhalation : Acts as a simple asphyxiant.

Ingestion : Ingestion is not a normal route of exposure for gases. Contact with cryogenic liquid can cause frostbite and cryogenic burns.

Medical conditions aggravated by over-exposure : Acute or chronic respiratory conditions may be aggravated by overexposure to this gas.

See toxicological information (Section 11)

Section 3. Composition, Information on Ingredients

	<u>CAS number</u>	<u>% Volume</u>	<u>Exposure limits</u>
Nitrogen	7727-37-9	100	Oxygen Depletion [Asphyxiant]

Nitrogen

Section 4. First aid measures

Action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : None expected.
- Frostbite** : Try to warm up the frozen tissues and seek medical attention.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : As this product is a gas, refer to the inhalation section.

Section 5. Fire-fighting measures

- Flammability of the product** : Non-flammable.
- Products of combustion** : Decomposition products may include the following materials:
nitrogen oxides
- Fire-fighting media and instructions** : Use an extinguishing agent suitable for the surrounding fire.
- Apply water from a safe distance to cool container and protect surrounding area. If involved in fire, shut off flow immediately if it can be done without risk.
- Contains gas under pressure. In a fire or if heated, a pressure increase will occur and the container may burst or explode.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

- Personal precautions** : Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (section 8). Shut off gas supply if this can be done safely. Isolate area until gas has dispersed.
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
- Methods for cleaning up** : Immediately contact emergency personnel. Stop leak if without risk. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Section 7. Handling and storage

- Handling** : High pressure gas. Do not puncture or incinerate container. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.
- Never allow any unprotected part of the body to touch uninsulated pipes or vessels that contain cryogenic liquids. Prevent entrapment of liquid in closed systems or piping without pressure relief devices. Some materials may become brittle at low temperatures and will easily fracture.
- Storage** : Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52 °C (125 °F).
- For additional information concerning storage and handling refer to Compressed Gas Association pamphlets P-1 Safe Handling of Compressed Gases in Containers and P-12 Safe Handling of Cryogenic Liquids available from the Compressed Gas Association, Inc.

Nitrogen

Section 8. Exposure controls/personal protection

- Engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Personal protection**
- Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.
When working with cryogenic liquids, wear a full face shield.
- Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
The applicable standards are (US) 29 CFR 1910.134 and (Canada) Z94.4-93
- Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Insulated gloves suitable for low temperatures
- Personal protection in case of a large spill** : Self-contained breathing apparatus (SCBA) should be used to avoid inhalation of the product.

Product name

Nitrogen

Oxygen Depletion [Asphyxiant]

Consult local authorities for acceptable exposure limits.

Section 9. Physical and chemical properties

- Molecular weight** : 28.02 g/mole
- Molecular formula** : N₂
- Boiling/condensation point** : -195.8°C (-320.4°F)
- Melting/freezing point** : -210°C (-346°F)
- Critical temperature** : -146.9°C (-232.4°F)
- Vapor density** : 0.967 (Air = 1) Liquid Density@BP: 50.46 lb/ft³ (808.3 kg/m³)
- Specific Volume (ft³/lb)** : 13.8889
- Gas Density (lb/ft³)** : 0.072

Section 10. Stability and reactivity

- Stability and reactivity** : The product is stable.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.

Section 11. Toxicological information

Toxicity data

- Other toxic effects on humans** : No specific information is available in our database regarding the other toxic effects of this material to humans.
- Specific effects**
- Carcinogenic effects** : No known significant effects or critical hazards.
- Mutagenic effects** : No known significant effects or critical hazards.
- Reproduction toxicity** : No known significant effects or critical hazards.

Nitrogen

Section 12. Ecological information

atic ecotoxicity

Not available.

Environmental fate : Not available.




Environmental hazards : No known significant effects or critical hazards.

Toxicity to the environment : Not available.

Section 13. Disposal considerations

Product removed from the cylinder must be disposed of in accordance with appropriate Federal, State, local regulation. Return cylinders with residual product to Airgas, Inc. Do not dispose of locally.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	UN1066	NITROGEN, COMPRESSED	2.2	Not applicable (gas).		Limited quantity Yes.
	UN1977	Nitrogen, refrigerated liquid				Packaging instruction Passenger aircraft Quantity limitation: 75 kg Cargo aircraft Quantity limitation: 150 kg
TDG Classification	UN1066	NITROGEN, COMPRESSED	2.2	Not applicable (gas).		Explosive Limit and Limited Quantity Index 0.125
	UN1977	Nitrogen, refrigerated liquid				Passenger Carrying Road or Rail Index 75
Mexico Classification	UN1066	NITROGEN, COMPRESSED	2.2	Not applicable (gas).		-
	UN1977	Nitrogen, refrigerated liquid				

to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the

Section 15. Regulatory information

United States

U.S. Federal regulations : TSCA 8(a) IUR: Partial exemption
United States inventory (TSCA 8b): This material is listed or exempted.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Nitrogen
SARA 311/312 MSDS distribution - chemical inventory - hazard identification:
Nitrogen: Sudden release of pressure

State regulations : **Connecticut Carcinogen Reporting**: This material is not listed.
Connecticut Hazardous Material Survey: This material is not listed.
Florida substances: This material is not listed.
Illinois Chemical Safety Act: This material is not listed.
Illinois Toxic Substances Disclosure to Employee Act: This material is not listed.
Louisiana Reporting: This material is not listed.
Louisiana Spill: This material is not listed.
Massachusetts Spill: This material is not listed.
Massachusetts Substances: This material is listed.
Michigan Critical Material: This material is not listed.
Minnesota Hazardous Substances: This material is not listed.
New Jersey Hazardous Substances: This material is listed.
New Jersey Spill: This material is not listed.
New Jersey Toxic Catastrophe Prevention Act: This material is not listed.
New York Acutely Hazardous Substances: This material is not listed.
New York Toxic Chemical Release Reporting: This material is not listed.
Pennsylvania RTK Hazardous Substances: This material is listed.
Rhode Island Hazardous Substances: This material is not listed.

Canada

WHMIS (Canada) : Class A: Compressed gas.
CEPA Toxic substances: This material is not listed.
Canadian ARET: This material is not listed.
Canadian NPRI: This material is not listed.
Alberta Designated Substances: This material is not listed.
Ontario Designated Substances: This material is not listed.
Quebec Designated Substances: This material is not listed.

Section 16. Other information

United States

Label requirements : **GAS**:
CONTENTS UNDER PRESURE.
Do not puncture or incinerate container.
Can cause rapid suffocation.
May cause severe frostbite.
LIQUID:
Extremely cold liquid and gas under pressure.
Can cause rapid suffocation.
May cause severe frostbite.

Canada

Label requirements : Class A: Compressed gas.

Nitrogen

Hazardous Material
Information System (U.S.A.)

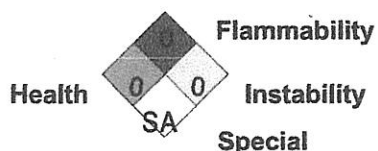
Health	0
Flammability	0
Physical hazards	0

liquid:

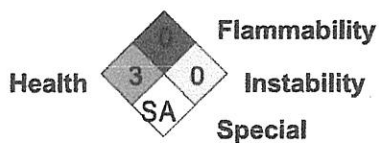
Health	3
Fire hazard	0
Reactivity	0
Personal protection	

National Fire Protection
Association (U.S.A.)

:



liquid:



Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

CUSTOMER: 442253

BATCH #: 122760064

ZONE #:303

BARCODE #:9611019095150216641097

ORDER #: 902169

STICKER #: 122760434

PRODUCT NAME: NU-COIL EVAPORATOR COIL CLEAN/DISINFECT

Supersedes Date 07/05/2010

Material Safety Data Sheet: NU-COIL EVAPORATOR COIL CLEAN/DISINFECT

Issuing Date 03/08/2011

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name NU-COIL EVAPORATOR COIL CLEAN/DISINFECT

Recommended use Disinfectants and general biocidal products

Information on Manufacturer

CHEMSEARCH FE DIV. OF NCH CORP.

BOX 152170

IRVING, TX 75015

Product Code 5407

Chemical nature Aerosol

Emergency Telephone Number

CHEMTREC 1-800-424-9300

2. HAZARDS IDENTIFICATION

Emergency Overview

CAUTION

Causes skin irritation

Causes eye irritation

May be harmful if inhaled

May be harmful if swallowed

Contents under pressure

Color Colorless

Potential Health Effects

Principle Route of Exposure

Primary Routes of Entry

Acute Effects

Eyes

Skin

Inhalation

Ingestion

Chronic Toxicity

Target Organ Effects

Aggravated Medical Conditions

Potential Environmental Effects

Physical State Aerosol

Odor Mild

Eye contact, Skin contact.

Inhalation, Skin Absorption.

Causes eye irritation.

Causes skin irritation.

Causes respiratory irritation seen as coughing and sneezing. May cause headache and dizziness. Inhalation may cause central nervous system effects.

May be harmful if swallowed.

Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood.

Liver, Kidney, Spleen, Central nervous system, Blood, Reproductive System, Lungs.

Respiratory disorders, Skin disorders, Liver disorders, Kidney disorders, Blood disorders, Neurological disorders.

See Section 12 for additional Ecological Information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No
2-Butoxyethanol	111-76-2
Petroleum gases, liquified, sweetened	68476-86-8
Isopropanol	67-63-0
Potassium hydroxide	1310-58-3
Alkyl dimethyl benzyl ammonium chloride (C12-18)	68391-01-5
Alkyl dimethyl ethylbenzyl ammonium chloride (C12-14)	85409-23-0

The product contains no substances which at their given concentration, are considered to be hazardous to health

4. FIRST AID MEASURES

General Advice

Eye Contact

Skin Contact

Inhalation

Ingestion

Notes to Physician

Avoid contact with skin, eyes and clothing. Avoid breathing vapors, mist, or gas.

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Call a physician or poison control center immediately.

Take off all contaminated clothing immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.

Move to fresh air. If breathing has stopped, apply artificial respiration. Call a physician or poison control center immediately.

Call a physician or Poison Control Center immediately. Give small amounts of water to drink. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

Concentrations substantially above the admissible concentration at the workplace may cause damage of liver and kidney and changes in the blood picture. Inhalation of vapours in high concentration can cause narcotic effects and metabolic acidosis.

5. FIRE-FIGHTING MEASURES

Flash Point

> 201 °F / > 94 °C

Autoignition Temperature No information available.

Flammability Limits in Air % Mixture.

Suitable Extinguishing Media

Carbon dioxide (CO2), Alcohol-resistant foam, Dry chemical, Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific hazards arising from the chemical

The product causes irritation of eyes, skin and mucous membranes. Flame extension: 0 inches / 0 cm and Bumpback: 0 inches / 0 cm. Material can create slippery conditions.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Aerosol Level (NFPA 30B) -

NFPA

HMS

Health 2

Health 2

Method

Seta closed cup

Upper 9.5

Lower 1.8

Flammability 1

Flammability 1

Instability 0

Instability 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Environmental Precautions
Methods for Containment

Methods for Cleaning Up
Neutralizing Agent

Ensure adequate ventilation.
Prevent further leakage or spillage if safe to do so
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
Pick up and transfer to properly labeled containers.
Not applicable.

7. HANDLING AND STORAGE

Handling

Avoid contact with skin, eyes and clothing. Avoid breathing vapors, mist or gas. Keep away from open flames, hot surfaces and sources of ignition.

Storage

Storage Temperature
Storage Conditions

Store in cool/well-ventilated place.
Minimum 35 °F / 2 °C
Indoor X Outdoor Maximum Heated 120 °F / 49 °C Refrigerated

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH
2-Butoxyethanol	TWA: 20 ppm	TWA: 50 ppm TWA: 240 mg/m ³ Skin	IDLH: 700 ppm TWA: 5 ppm TWA: 24 mg/m ³
Petroleum gases, liquified, sweetened	No data available	No data available	No data available
Isopropanol	TWA: 200 ppm STEL: 400 ppm	TWA: 400 ppm TWA: 980 mg/m ³	IDLH: 2000 ppm STEL 500 ppm STEL 1225 mg/m ³ TWA: 400 ppm TWA: 980 mg/m ³
Potassium hydroxide	Celling: 2 mg/m ³	No data available	Celling: 2 mg/m ³
Alkyl dimethyl benzyl ammonium chloride (C12-18)	No data available	No data available	No data available
Alkyl dimethyl ethylbenzyl ammonium chloride (C12-14)	No data available	No data available	No data available

Engineering Measures

Ensure adequate ventilation, especially in confined areas

Personal Protective Equipment

Eye/Face Protection
Skin Protection
Respiratory Protection

Tightly fitting safety goggles.
Wear suitable protective clothing, Impervious gloves.
In case of inadequate ventilation wear respiratory protection. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Wear protective gloves/clothing. Ensure that eyewash stations and safety showers are close to the workstation location.

General Hygiene Considerations

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State

Aerosol

Viscosity

Non viscous

Color

Colorless

Odor

Mild

Appearance

Opaque

pH

12.8
> 1 (Butyl acetate=1)

Specific Gravity

1.00

Evaporation Rate

16

Percent Volatile (Volume)

98

VOC Content (%)

0.6 (Air = 1.0)

Vapor Pressure

760 mmHg @ 70°F

Vapor Density

> 212 °F / 100 °C

Solubility

Miscible

Boiling Point/Range

10. STABILITY AND REACTIVITY

Chemical Stability

Stable. Hazardous polymerization does not occur.

Conditions to Avoid

Heat, flames, and sparks

Incompatible Products

Strong oxidizing agents, Strong acids, Strong bases.

Hazardous Decomposition Products

Carbon oxides, Aldehydes, Ketones, Organic acids.

Possibility of Hazardous Reactions

None under normal processing

11. TOXICOLOGICAL INFORMATION

Product Information

No information available.

Component Information

Acute Toxicity

No information available

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	Draize Test	Other
2-Butoxyethanol	470 mg/kg (Rat)	220 mg/kg (Rabbit) 2270 mg/kg (Rat)	2.21 mg/L (Rat) 4 h 450 ppm (Rat) 4 h	no data available	no data available
Petroleum gases, liquified, sweetened	no data available	no data available	no data available	no data available	no data available
Isopropanol	4396 mg/kg (Rat)	12800 mg/kg (Rat) 12870 mg/kg (Rabbit)	72.6 mg/L (Rat) 4 h	no data available	no data available
Potassium hydroxide	214 mg/kg (Rat)	no data available	no data available	no data available	no data available
Alkyl dimethyl benzyl ammonium chloride (C12-18)	no data available	no data available	no data available	no data available	no data available
Alkyl dimethyl ethylbenzyl ammonium chloride (C12-14)	no data available	no data available	no data available	no data available	no data available

Chronic Toxicity

Component	Mutagenicity	Sensitization	Developmental Toxicity	Reproductive Toxicity	Target Organ Effects
2-Butoxyethanol	no data available	no data available	no data available	no data available	liver, kidneys, lymphatic system, skin, blood, eyes, CNS, respiratory system, spleen
Petroleum gases, liquified, sweetened	no data available	no data available	no data available	no data available	no data available
Isopropanol	no data available	no data available	no data available	no data available	eyes, respiratory system, skin, liver, kidney, CNS
Potassium hydroxide	no data available	no data available	no data available	no data available	eyes, respiratory system, skin
Alkyl dimethyl benzyl ammonium chloride (C12-18)	no data available	no data available	no data available	no data available	no data available
Alkyl dimethyl ethylbenzyl ammonium chloride (C12-14)	no data available	no data available	no data available	no data available	no data available

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	ACGIH	IARC	NTP	OSHA	Other
2-Butoxyethanol	A3	not applicable	not applicable	not applicable	not applicable
Petroleum gases, liquified, sweetened	not applicable	not applicable	not applicable	not applicable	not applicable
Isopropanol	not applicable	not applicable	not applicable	not applicable	not applicable
Potassium hydroxide	not applicable	not applicable	not applicable	not applicable	not applicable
Alkyl dimethyl benzyl ammonium chloride (C12-18)	not applicable	not applicable	not applicable	not applicable	not applicable
Alkyl dimethyl ethylbenzyl ammonium chloride (C12-14)	not applicable	not applicable	not applicable	not applicable	not applicable

12. ECOLOGICAL INFORMATION

Product Information

No information available.

Component Information

Component	Toxicity to Algae	Toxicity to Fish	Microtox	Water Flea	log Pow
2-Butoxyethanol	no data available	LC50 = 1490 mg/L <i>Lepomis macrochirus</i> 96 h LC50 = 2950 mg/L <i>Lepomis macrochirus</i> 96 h	no data available	1696 - 1940 mg/L 24 h > 1000 mg/L 48 h	0.81
Petroleum gases, liquified, sweetened	no data available	no data available	no data available	no data available	2.8
Isopropanol	EC50 > 1000 mg/L <i>Desmodesmus subspicatus</i> 72 h EC50 > 1000 mg/L <i>Desmodesmus subspicatus</i> 96 h	LC50 = 11130 mg/L <i>Pimephales promelas</i> 96 h LC50 = 9640 mg/L <i>Pimephales promelas</i> 96 h LC50 > 1400000 µg/L <i>Lepomis macrochirus</i> 96 h	EC50 = 35390 mg/L 5 min	= 13299 mg/L 48 h	0.05
Potassium hydroxide	no data available	LC50 = 80 mg/L <i>Gambusia affinis</i> 96 h	no data available	no data available	0.83
Alkyl dimethyl benzyl ammonium chloride (C12-18)	no data available	no data available	no data available	no data available	N/A
Alkyl dimethyl ethylbenzyl ammonium chloride (C12-14)	no data available	no data available	no data available	no data available	N/A

Persistence and Degradability

No information available.

Bioaccumulation

No information available.

Mobility

No information available.

13. DISPOSAL CONSIDERATIONS

Product Disposal

Dispose of in accordance with local regulations.

Container Disposal

Contents under pressure. Do not puncture. Empty remaining contents. Empty containers should be taken for local-recycling, recovery, or waste disposal. Do not re-use empty containers.

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name
Hazard Class
Description

DOT

Consumer commodity
ORM-D
Consumer commodity,ORM-D,

TDG

Proper shipping name
Hazard Class
UN-No
Description

Aerosols
2.2
UN1950
AEROSOLS,2.2,UN1950, LTD QTY

ICAO

UN-No
Proper Shipping Name
Hazard Class
Shipping Description

UN1950
Aerosols
2.2
Aerosols,UN1950, LTD QTY

IATA

UN-No
Proper Shipping Name
Hazard Class
ERG Code
Shipping Description

UN1950
Aerosols, non-flammable, LTD QTY
2.2
2L
UN1950,Aerosols, non-flammable,2.2, LTD QTY

IMDG/IMO

Proper Shipping Name
Hazard Class
UN-No
EmS No.
Shipping Description

Aerosols
2
UN1950
F-D, S-U
UN1950, Aerosols,2, LTD QTY

15. REGULATORY INFORMATION

Inventories

TSCA

Complies

DSL

Complies

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40n of the Code of Federal Regulations, Part 372

Component	CAS-No	Weight %	SARA 313 - Threshold Values
2-Butoxyethanol	111-76-2	5-10	1.0
Isopropanol	67-53-0	1-5	1.0 % de minimis concentration (only if manufactured by the strong acid

process, no supplier notification)

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Chronic Health Hazard	Fire Hazard	Sudden Release of Pressure Hazard	Reactive Hazard
Yes	Yes	No	Yes	No

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs
2-Butoxyethanol	Not applicable	Not applicable
Petroleum gases, liquified, sweetened	Not applicable	Not applicable
Isopropanol	Not applicable	Not applicable
Potassium hydroxide	Not applicable	Not applicable
Alkyl dimethyl benzyl ammonium chloride (C12-18)	Not applicable	Not applicable
Alkyl dimethyl ethylbenzyl ammonium chloride (C12-14)	Not applicable	Not applicable

U.S. State Regulations
California Proposition 65

This product does not contain any Proposition 65 chemicals.

Canada
This product may not be commercially placed on the market in Canada.
WHMIS Hazard Class
Not applicable

16. OTHER INFORMATION

Prepared By Dan Hollas
Supersedes Date 07/05/2010
Issuing Date 03/08/2011
Reason for Revision No information available.
Glossary No information available.
List of References. No information available.

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